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THE JOURNAL OF PHILOSOPHY

THE CONFLICT OF NATURALISM AND TRANSCENDENTALISM IN PEIRCE¹

ATTENTIVE readers of the *Collected Papers* of Charles Peirce know that they harbor statements very difficult to reconcile with one another. Some of these statements seem to be the product of a "tough-minded" thinker; others, to be the work of one who is essentially "tender-minded." Such discrepancies create a problem for the student who is seeking in Peirce a coherent system of thought. Nor is the problem made easier by reading Peirce's own account of his method of philosophical composition.

I have never, in any philosophical writing . . . made any statement which was not based on at least half a dozen attempts, in writing, to subject the whole question to a very far more minute and critical examination than could be attempted in print, these attempts being made quite independently of one another, at intervals of many months, but subsequently compared together with the most careful criticism. . . . My waverings, therefore, have never been due to haste [5.146].²

In the light of such a statement, which I think must be taken seriously, it becomes an important task to try to discover the cause of Peirce's "waverings." The hypothesis I wish to suggest is that this cause is to be found in a pair of opposed philosophical tendencies which were simultaneously present in his mind. When formulated in some detail, these tendencies can be seen as two conflicting sets of assumptions which functioned in such a way as to prevent him from elaborating a complete philosophical "system." My aim in the present paper is to assemble some evidence in support of this hypothesis. I shall first offer a brief characterization of the two tendencies, and then illustrate their effects in several areas of Peirce's thought.

I

I have chosen the general terms "naturalism" and "transcendentalism" to designate the tendencies in question.

¹ Read with certain omissions at the meeting of the Charles S. Peirce Society, Yale University, New Haven, Conn., December 28, 1946.

² *Collected Papers of Charles Sanders Peirce*, edited by Charles Hartshorne and Paul Weiss, Harvard University Press, 6 vols. (1931-1935), Vol. 5, Paragraph 146. All subsequent references to this work will be noted as above.

By *naturalism* I mean a philosophical point of view which involves at least the following assumptions: (1) that scientific method (i.e., empirical observation, experimentation, and inference therefrom) is the only reliable means of obtaining knowledge; (2) that theory and practice are interdependent and inseparable components of human life; (3) that man is the product of a much vaster realm of nature, whose philosophical interpretation requires the use of non-subjective, "impersonal" concepts; (4) that *experience* is a name for the direct interaction of man with nature, an interaction which is initially, at least, non-cognitive and non-mental; (5) that speculative metaphysics is a cognitively illegitimate pursuit.

By *transcendentalism* I mean a philosophy which, amongst other things, assumes: (1) that feeling, instinct, sentiment, etc., yield far more significant data for philosophy than does scientific method; (2) that theory and practice have no essential connection with one another; (3) that since man's "inner world" provides him with the most important clues for the philosophical interpretation of nature, it is appropriate to use in this interpretation ideas with a highly personal, or even anthropomorphic, connotation; (4) that experience is a cognitive or mental affair; (5) that speculative metaphysics can provide knowledge of the ultimate character of the cosmos.

Whether or not one agrees with my labels, I think it will be admitted that we have here two sets of assumptions which must have opposite effects in determining a philosopher's conclusions. Both sets were, I believe, present in Peirce's case, though by no means of equal importance in influencing his thought. I shall now attempt to show how they appear in (a) his discussion of belief and knowledge, (b) his account of *experience*, and (c) his views on metaphysics.

II

(a) It is a cardinal doctrine in Peirce that man's reflective life falls exclusively within the limits of his beliefs and his doubts (5.416). Belief is the primary condition of his existence; and he is only jolted out of it by some surprising phenomenon occurring in his immediate environment (5.512). Surprise produces doubt, and the irritation of doubt causes a struggle to reach a new state of belief (5.375). This struggle takes the form of reflective inquiry whose aim is to establish convictions that will be stable, i.e., proof against future surprise and disappointment (2.173). Moreover, since beliefs "guide our desires and shape our actions" (5.371), since, indeed, beliefs are habits of action of which we are

conscious (4.53), theory and practice can never be separated from one another. "... every proposition that is not pure metaphysical jargon and chatter must have some possible bearing upon practice" (5.539). Genuine doubt, therefore, involves a temporary paralysis of action from which we seek to be released by the setting up of a new belief.

In his well-known essay of 1877, Peirce argues that the only reliable way of "fixing" belief is the method of science—that powerful combination of abduction, deduction, and induction, to the elucidation of which he devoted so much of his best thought. Science proceeds on the postulate that our beliefs are determined by a world of real things whose characteristics, though wholly independent of our opinions about them, can nevertheless be comprehended by the investigating intelligence. Scientific method is a self-corrective process, which by repeated application can eliminate its own errors. It yields reliable but not infallible knowledge, based on evidence which is public and open to all.

Only those beliefs are dependable, then, which have been purged of doubt by the method of science. Such beliefs alone are true, for "the ideas of truth and falsehood, in their full development, appertain exclusively to the experiential (scientific) method of settling opinion" (5.406). Since belief and behavior are continuous, science must have a vital bearing on practical concerns.

Like all reflective inquiry, science takes for granted those beliefs which have never been called into doubt. These "indubitable beliefs" are its vague, ultimate premises (5.515). Such beliefs may be called "instinctive" inasmuch as they are the result of biological and social adjustments made long ago by our primitive ancestors (5.511). They are the product of evolution, and have their basis in the "total everyday experience of many generations of multitudinous populations" (5.522). However, while broadly invariant from age to age, they are by no means beyond criticism. Indeed, it is essential that these first premises should be constantly subjected to scrutiny (5.517), for "the whole history of thought shows that our instinctive beliefs, in their original condition, are so mixed up with error that they can never be trusted till they have been corrected by experiment" (1.404).

The doctrines so far sketched fall quite obviously, I think, into the naturalistic pattern. I must now draw attention to a set of statements on the same theme—most of them dated after 1890—which reveal quite a different attitude. In them Peirce declares that "science has nothing directly to say concerning practical matters" (1.637), for "true science is *distinctively* the study of useless things" (1.76). The moment a man begins to investigate a ques-

tion for some ulterior purpose, such as, "to amend his life, or to benefit his fellows," he ceases to be a scientist (1.45). Science has "nothing at stake on any temporal venture but is in pursuit of eternal verities" (5.589). It has absolutely no connection with action (1.635). For this reason "what is properly and usually called belief . . . has no place in science at all" (*ibid.*). We believe those propositions we are ready to act on. But the scientific man will never risk anything on his conclusions; they are too tentative and fallible (*ibid.*). *Qua* scientist, all he is dealing with are certain provisional opinions which he is trying hard to prove worthless (6.3). There is, then, "no proposition at all in science which answers to the conception of belief" (1.635).

In practical affairs and "matters of vital importance" not only is science worthless, but reason likewise is no proper guide. When a man attempts "to reason out his plans from first principles . . . in at least nine such cases out of ten, he blunders seriously, even if he manages to escape complete disaster" (2.176). The wise procedure is to rely entirely on instinct in the practical conduct of life, for "instinct is all but unerring; but reason in all vitally important matters is a treacherous guide" (6.86). Instincts appear in consciousness as sentiments or instinctive beliefs. Indeed, it is "the sentiments that make the substance of the soul" (1.628). As soon as we try to formulate our sentiments in conceptual terms, we find that they are extremely vague. "Nevertheless, our instinctive beliefs involving such concepts are far more trustworthy than the best established results of science" (6.496). Even the science of logic supports this conclusion, since it "demonstrates in the clearest manner that reasoning itself testifies to its own ultimate subordination to sentiment" (1.672). The prescription of reason is that we should follow the dictates of instinct when such conduct answers our purpose (2.177). In short, where the greatest affairs of life are at stake, "the wise man follows his heart and does not trust his head" (1.653).

We see here one of the familiar features of American transcendentalism in the nineteenth century—the romantic exalting of feeling and sentiment at the expense of thought. It is but a short step from such a doctrine to the view that thought has no important bearing on action, and Peirce occasionally takes the step. Reason, he urges, is supreme only in matters of theory; sentiment is supreme in practical affairs (1.634). The two realms are irreconcilably opposed. "The two masters *theory* and *practice* you cannot serve" (1.642). When he is thinking thus, Peirce offers us such things as the curious "neglected argument" for the reality of God, and the conclusion that ethics is a pointless or even a

dangerous discipline. The contrast with his naturalism is very apparent in all this. No longer is it the case that beliefs must be fixed by the method of science before they can be accepted as reliable. On the contrary, there seems to be almost an approval of the "method of tenacity," whose weaknesses Peirce so clearly points out elsewhere. No longer can it be said that "logicality in regard to practical matters . . . is the most useful quality an animal can possess" (5.366), for logic must always bow the knee to sentiment in such matters. Thus do the two antithetical tendencies create a cleavage in Peirce's views on how we should appraise our fundamental beliefs.

III

(b) The same conflict can be illustrated, it seems to me, in Peirce's treatment of experience. This is a complex subject, and I shall concentrate only on the aspects of it that bear directly on my main theme. I shall seek to show merely that his remarks on the precise character of experience fall into two broad groups, corresponding to the pair of tendencies already noted.

(1) Within the naturalistic context, Peirce speaks of experience as "the enforced element in the history of our lives" (5.581). It is that which we are compelled to accept because it involves "a brute bearing down of any will to resist it" (4.172). Hence, experience manifests a concrete duality (5.539), a sense of something reacting against us, the shock of an alien non-ego making its impact on the ego (2.139; 5.52). The clearest illustration of this duality is the phenomenon of surprise. Consequently, "experience" is the name we apply to contrasts or sudden changes in our perception. "We experience vicissitudes, especially" (1.336).

As thus delineated, experience is "destitute of anything rational" (4.172). It is simply the direct action on us of the external world, the world of fact (1.321). Psychologically, this direct action gives us percepts, which may therefore be said to "constitute experience proper, that which I am forced to accept" (2.142). Since the percept "appears under a physical guise" and contains nothing psychical, it "is correct to say that we immediately, that is directly perceive matter" (1.253; 1.419). By "matter," of course, Peirce does not mean any kind of substance or substratum, but that subject whose existence is constituted by really having qualities (1.527). A preferable designation is "fact." Experience may then be said to acquaint us with facts—those determinate, irrational particulars whose occurrence *hic et nunc* is a matter of brute force (1.435).

Such experience is wholly non-cognitive. "It affirms nothing—it just *is*. . . . It involves no error, because it testifies to nothing but its own appearance" (1.145). Nevertheless, precisely this non-cognitive experience is the *source* of all our knowledge. "All that we can anyway know relates to experience. All the creations of our mind are but patchworks from experience" (6.492). At the most elementary level, knowledge is obtained by describing the percept in a perceptual judgment. These two things, however, differ *toto coelo*. "The percept . . . is not itself a judgment, nor can a judgment in any degree resemble a percept" (5.54). "The percept is the reality. It is not in propositional form. But the most immediate judgment concerning it is abstract. It is therefore essentially unlike the reality, although it must be accepted as true to that reality" (5.568). The only justification for such a judgment is that it subsequently turns out to be useful, i.e., it enables us to guide our future action (1.538). Experience, therefore, gives us "the evidence of the senses," but knowledge has to start with "a sort of stenographic report of that evidence, possibly erroneous" (2.141).

Not only is experience the source of our knowledge, but it provides us with the only reliable *test* of knowledge. For both the experimental activity and the observations whereby the consequences of a concept are determined are nothing more than "the deliberate yielding of ourselves to the *force majeure* of experience" (5.581).

(2) The other account which I find in Peirce produces a different sort of picture. Here, experience is equated with knowledge or cognition. "*Experience* means nothing but just that of a *cognitive nature* [italics mine] which the history of our lives has forced upon us" (5.539). It is "that determination of belief and cognition" (2.138), the "information" (1.537) or "resultant ideas" (4.318), which we have been compelled to accept. The compulsion involved here must then be a rational not an irrational affair. When he is thinking in this context, Peirce talks about perceptual facts, rather than percepts, as that which is forced upon us. For the percept is a particular event happening *hic et nunc*. Its locus is the immediate present. But since the immediate present is an infinitesimal interval of time (6.110), its content must be wholly ineffable (1.310). Before any *experience* can occur, memory must function so as to give us a perceptual fact. For "a perceptual fact is a memory hardly yet separated from the very percept"; yet it is unlike the percept in being slightly generalized, i.e., it is a cognition. Moreover, the process of forming perceptual facts is one over which we have no control (5.115). They must be ac-

cepted for what they are—the first premises of our knowledge. Perceptual facts, then, due to the operation of memory, constitute experience proper.

The upshot of this approach is that experience is the result of the activity of mind. "By experience must be understood the entire mental product" (6.492). This Kantian conclusion I take to be an important part of Peirce's "transcendentalism." In at least two places he even goes so far as to affirm that our *percepts*, too, are "mental constructions" (2.141) or "the results of cognitive elaboration" (5.416). However, he may be thinking here of perceptual facts, rather than percepts proper. Be that as it may, the view that experience is a cognitive construct can only lead to a rationalistic idealism similar to that of Hegel or Bosanquet. This was, indeed, one of the directions in which Peirce's transcendental tendency drew him.

The contrast between these two versions of experience can be conveniently sharpened by relating them to his phaneroscopy. This science, it will be recalled, observes whatever appears, and discriminates its most general, "indecomposable" features. The latter turn out to be the three categories of Firstness, Secondness, and Thirdness. Now it seems to me that Peirce's naturalism connects "experience" exclusively with *one* of the categories, viz., Secondness. A clear statement of the matter occurs in a letter which he wrote to William James in 1903. "The practical exigencies of life render 'secondness' the most prominent feature of it. This is not a conception, nor is it a quality. It is an experience. It comes out most fully in the shock of reaction between ego and non-ego. . . . All the *actual* character of consciousness is merely the sense of the shock of the non-ego upon us."³ There is not the slightest suggestion of a cognitive element here. Nor is there any suggestion that the non-ego is dependent on or akin to the ego. Experience is simply actuality, the compulsiveness of the world of fact or individual existence.

On the other hand, Peirce sometimes takes "experience" in a much wider sense as the *cognitive whole* within which all three categories are contained. "I analyse experience, which is the cognitive resultant of our past lives, and find in it three elements. I call them Categories" (2.84). On this approach, while the sense of compulsion (Secondness) "accompanies every experience whatever" (2.22), it does not *constitute* experience, for the latter also involves quality (Firstness) and law (Thirdness). When he is

³ Quoted in R. B. Perry, *The Thought and Character of William James*, Vol. II, p. 429.

writing in this vein, Peirce sometimes expresses agreement with the conclusions of Kant. Thus, in 1890 he declared:

How is the extraordinary prominence of these conceptions [the categories] to be explained? Must it not be that they have their origin in the nature of the mind? This is the Kantian form of inference, which has been found so cogent in the hands of that hero of philosophy; and I do not know that modern studies have done anything to discredit it. . . . A man must be a very uncompromising partisan of the theory of the *tabula rasa* to deny that the ideas of first, second, and third are due to congenital tendencies of the mind. [1.374]

I do not suggest that this passage represents Peirce's settled position with regard to the status of the categories. All I wish to emphasize is the explicitness of its affirmation of a transcendentalist position.

IV.

(c) For the final illustration of my thesis, I turn to Peirce's metaphysical speculations on the origin and evolution of the universe. The first thing that must be noted is the marked ambivalence in his views on the validity of the metaphysical enterprise. In the naturalistic frame of reference, where all concepts are defined pragmatically in terms of their experimental consequences (5.412, etc.), Peirce repeatedly affirms the futility of speculation. "A theory, which goes beyond what may be verified to any degree of approximation by future discoveries is, in so far, metaphysical gabble" (5.541). The pragmatic maxim, rigorously applied, serves to show "that almost every proposition of ontological metaphysics is either meaningless gibberish . . . or else is downright absurd" (5.423). The sound procedure is to sweep "all such rubbish" away, and leave to philosophy its proper subject-matter, *viz.*, problems capable of investigation by the observational methods of the true sciences. Since "all that ought to figure in a philosophical discussion involves, and turns upon, precise necessary reasoning" (5.8), pragmatism gives us "an expeditious riddance of all ideas essentially unclear" (5.206), by specifying the meaning of concepts in terms of their sensible or practical effects. Flights of speculative fancy are automatically ruled out of court.

Elsewhere, Peirce expresses approval of a scientifically orientated metaphysics. To the objection that metaphysics is necessarily inscrutable because its objects are not open to observation, he replies that (a) "the things that any science discovers are beyond the reach of direct observation," and (b) all metaphysics, even the "bad" variety, "rests on observations, whether consciously or not; and the only reason that this is not universally recog-

nized is that it rests upon kinds of phenomena with which every man's experience is so saturated that he usually pays no particular attention to them" (6.2). Hence, "every man of us has a metaphysics, and has to have one; and it will influence his life greatly" (1.129). The sciences also make metaphysical assumptions (2.121). The proper attitude, therefore, is to recognize that metaphysics is an observational science which must use the method of induction and hypothesis in arriving at its conclusions. Only thus can it stop being "a mere arena of ceaseless and trivial disputation," and begin to yield solidly established and generally acceptable results.

Peirce's metaphysical practice did not, of course, conform to these empirical specifications. His transcendental predilections led him to elaborate a cosmology, compounded of panpsychism, tychism, and a cosmic interpretation of evolution. The universe is pictured as having its origin in "a chaos of unpersonalized feeling" which began mysteriously to develop a tendency to form habits. From this, the process of growth or evolution started, and the world was launched on a course whose terminus can only be "an absolutely perfect, rational, and symmetrical system, in which mind is at last crystallized in the infinitely distant future" (6.33). The original chaos, however, was not an historical state; it did not exist, for "chaos is pure nothing" (5.431). It was the logical but not the chronological antecedent of existence (Secondness). Likewise, the final condition of the universe will be a non-existent state of perfect rationality (Thirdness) into which Firstness and Secondness will have been absorbed. From the human standpoint, then, pure indeterminacy and the absolute reign of law represent merely ideal limits which speculative thought must postulate. For "at any assignable date in the past, however early, there was already some tendency toward uniformity; and at any assignable date in the future there will be some slight aberrancy from law" (1.409).

The transcendentalist cast of all this becomes crystal clear when we note how Peirce links it with his doctrine of God. As certain unpublished fragments⁴ from his early period show, Peirce was throughout his life a theist. The highly personal character of this belief tended to make his discussions of it cryptic and desultory. But among the considerations adduced in support of the hypothesis of God's reality are (a) that it satisfies the religious instinct or sentiment (6.429); (b) that it can be observationally verified ("... as to God, open your eyes—and your heart, which is a perceptive organ—and you see him") (6.493); and (c) that it is the idea towards which the spontaneous, undirected play of thought, which Peirce calls "musement," naturally gravitates when

⁴ In the Archives, Widener Library, Harvard University.

we contemplate the enormous complexity and variety of the cosmos (6.465). In this sense, the idea is the product of an abductive inference (6.484).

Since it is at bottom an "instinctive belief" (6.501), the hypothesis of God's reality is bound to be vague. Nevertheless, it enables us to represent His nature in various ways—as an infinitely incomprehensible object (6.466), a disembodied spirit (6.489), *Ens necessarium*, "the creator of all three Universes of Experience" (6.452), the ultimate source of the law of love (6.449). Not only is God the originator of things, but their evolution is a progressive unfolding of His nature. Indeed, all reality is due to his creative power, which is still at work in the world (6.505). God is real, but he does not exist (6.495); and the traditional attributes of omniscience, omnipotence, and infallibility can only be attributed to Him in the vaguest sense (6.508-9).

The universe, then, had its origin not in chance, but in God. He is the highest reality and the goal of the evolutionary process. "The starting point of the Universe, God the Creator, is the Absolute First; the terminus of the Universe, God completely revealed, is the Absolute Second; every state of the Universe at a measurable point of time is the Third" (1.362). Here we have the extreme point of Peirce's transcendentalism, the polar opposite of his naturalism. When he is thus engaged in formulating a theology, one would never guess that he had described his philosophy elsewhere as "the attempt of a physicist to make such conjecture as to the constitution of the universe as the methods of science may permit" (1.7).

In conclusion, I should like to emphasize that the aim of this paper has been simply to offer some evidence for the hypothesis that conflicting tendencies are to be found in Peirce. I believe this conflict to be a most important clue to the understanding of his thought. Nothing has been said about the possible sources of the two tendencies in the external circumstances of his life or the "inner dialectic" of his ideas. These are topics which require separate treatment. I may say, however, that I do not consider the tendencies to have been present in a fully developed form from the beginning of his career. Nor do I think they were of equal significance in determining his work. On the contrary, it seems clear that his naturalism was both stronger than his transcendentalism, and also more fruitful in terms of the constructive contributions which resulted from it. Hence, the researches which occupied the bulk of his time, viz., logic and scientific method, show fewer traces of the basic conflict than, say, his metaphysics and ethics. Personally I do not find the presence of this conflict in his thought

a cause for regret. True, it prevented him from completing a tightly coherent system "in the grand manner." But had he always sought to subordinate his reflections to the demands of such a system, we should probably not have that wealth of exciting and fruitful, but often random, "leads" in logic, semiotics, scientific method, and phenomenology, for which we honor him today.

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REASON AND EXISTENCE

I

THE word "reason" means a particular faculty of perception or cognition. Every cognition is the cognition of a particular something which renders it a real cognition. It must be a cognition of something which has a being of its own, independent of the act of cognition itself. For, what claims to be cognition proves to be the opposite of it, namely error, mistake, or illusion unless a corresponding object gives fulfilment to this claim.

What kinds of objects are the particular objects of reason? Webster's Collegiate Dictionary¹ gives the right answer: reason is "that in the reality which makes any fact intelligible," whereby intelligible is interpreted as "capable of being understood." Asking, however, what makes reality intelligible, we face a strange phenomenon. It is not reality itself which renders reality intelligible. As long as we are perceiving merely real things or factual events, we get information but not intelligibility or understanding, that is, we do not get their meaning. Grasping factual events and their factual connections and relations, we do not yet understand why they are connected with and related to each other as they just are—and not in another way. But we immediately understand it, if we have grasped the necessity of these connections and relations. The opposite of understanding is, to be satisfied with statements of factual uniformity in the simultaneous and consecutive connections and relations of events. This uniformity does not explain anything but needs itself an explanation. And the explanations commonly given are nothing but naïve coverings of ignorance; one takes refuge in inventions of forces or powers-of-nature which are supposed to function by exerting an inexorable influence in pushing, drawing, urging things always in the same way. Nobody has ever seen these powers or forces-of-nature; they

¹ Edition of 1942.

are just as mythical as the demons and gods of former "explanations"

Reason refers to self-evidently necessary connections and relations of things and events, irrespective of the reality of these things and events. Experience of facts can *lead* to this knowledge and can illustrate or corroborate it, but it does not determine its validity at all. Whether real triangles exist or not, does not concern a bit the validity of the laws of trigonometry. In fact, we know that the triangle and the straight line and the angle geometry is dealing with, have no reality in our world of factual experience. This becomes already clear when we keep in mind that, in order to be real, any triangular thing in our world must be three-dimensional, while "the triangle" consists of one-dimensional lines, that is, of lines which have no breadth at all. Nevertheless the laws of geometry, although themselves not rooted in reality, rule our real world of triangular physical things and spatial distances. Their knowledge is of the utmost practical consequence just because we can rely upon those laws absolutely, anticipating all experience in any single case. We know beforehand that we can not put a bigger vessel into a smaller one and we know that in order to cross a square we can shorten the distance by choosing the diagonal connection between the two points instead of the angular one.

We know, without counting, that, by adding five apples to five apples, not more and not less than exactly ten apples will be there. We know beforehand, or at least we ought to know, that by teaching children and adults that success and power over other people are good, we can not expect them to become peaceful, content with what they possess, and capable of real enjoyment. We must not always wait and see what will happen after this or that is done.

A reasonable being is a being who knows *beforehand* what he has to expect and how he has to behave in concrete situations. He is not like Epi-metheus, that is, thinking *after* he has had an experience but like Pro-metheus, thinking *beforehand*, that is, anticipating the experience by thinking. His intelligence does not consist in his adjustment to reality, but in forming reality according to his thoughts or plans. And these thoughts or plans refer to standards or ideas which can not have been furnished by experience of facts.

One has always tried to reduce in a roundabout way to experience of facts this kind of knowledge which can not be explained by experience of facts and whose objects are neither real nor singular. All attempts failed. Similarity, uniformity, repetition, habit, economizing, and condensing of the quantity of single facts and experiences to symbols and abbreviations—all these and other

principles of the most refined psychologistic and linguistic attempts at solving the problem of universals or ideas can easily be shown to presuppose implicitly just what they try to disprove explicitly. In short, we are still today just as helpless as Plato was when he encountered the amazing phenomenon that the firmest and clearest knowledge of the necessary connections and relations of the real individual things within this our real world can be found just by abstracting from the reality, *factualness*, *materiality*, and *singularity* of these real things themselves: in universals, or, as he called it, in ideas which are what they are beyond any number, time, and space, and nevertheless not nothings but very definite beings of their own. Being unreal themselves they rule reality. They are universal, non-temporal, and non-spatial themselves—but *no individual thing in time and space can violate those rules.*

It is this field of self-evident and necessary connections and relations of universals which constitutes the proper object of reason. But since it seems to be in need of something which furnishes it with solid existence, it has been mostly identified with the knowledge itself whose object it is. All the philosophical and theological doctrines which, consciously or unconsciously, stand under the influence of Plato's great discovery try to hide this embarrassment by an ambiguous use of the word "reason,"² oscillating between a mental and objective meaning, that is, indicating at one time a cognitive capacity, at another time "the reason inherent in things."

II

Irrationality is the proper character of reality or factualness, that is, of existence *qua* existence. It is what we have to abstract from, when facing universals or ideas. Various attempts have been made to define that additional moment which makes real and individual beings out of ideas or universals. They all have one thing in common: they speak of *something which lacks clearness, distinctness, rationality*. Matter is darkness, lacking any distinct content or form. Individualization, conceived as genuine principle of uniqueness, is indescribable; you can only point at it, saying *haecce*, that is, "this here!" or mark it by a proper name. No accumulation of quiddities and qualities, even if *endlessly continued*, can bring us to a definite something which, by its very nature, would exclude the possibility of being realized more than once, that is,

² Also the term "reason" itself changes into a number of terms, like *nous*, *logos*, *sophia*, *logoi spermatikoi*, world soul, eternal ideas or thoughts of the divine mind, *verités éternelles*, the absolute *Idee* or *Begriff*.

of being a universal, instead of being an individual, absolutely unique.

And the individual as such is not defined either by declaring it to be uniquely determined by its causal, temporal, and spatial position within the universe; for the individual is not identical with its position.

There has been made the attempt to enlarge the concept of universals to comprise also individual essences or ideas, such as *Socrátitas*. But even in this case the essential uniqueness eludes any rational understanding. You can speak of an "individual law," but it will not help you to predict, to calculate, and to understand a single case of the functioning of this law—unless it has already found its factual actualization. You can not conclude anything from anything already known to you, since the "individual law" excludes any repetition. Uniqueness, individuality, even if placed within the realm of universals, is, indirectly, irrational since it can not be grasped apart from its existential actualization.

Existence *qua* existence has also been defined as will, meaning arbitrariness. Again the irrational character of existence is indicated thereby.

Finally, existence has been identified with value. "*Ens et bonum convertuntur.*" It is remarkable that even Plato can not avoid this view although it contradicts his own doctrine as far as he identifies ideas or universals via norms (ideals) with values. And so do the Neo-Platonists and the Christian philosophers. It is the abundance of being identified with goodness, which, overflowing, emanates into the reality of this universe. It is the overflowing of the infinite love of God which creates it. Whereby creation and emanation are both conceived as continuously renewed act of existence.

It can be shown very easily that value lies beyond the reach of reason, ideas, universals. Suppose we had a perfect knowledge of all the necessary connections and relations of all things and events of this real universe; suppose all its elements, combinations, structures, and functions, where everything comes from and goes to, all the causal, temporal, and spatial orders were absolutely transparent to us. Nevertheless we would be ignorant of the meaning of the existence of the universe, that is, we could still ask, "Why does anything exist at all?" Whether eternal or created, whether ruled by providence or by pure chance—we still would be justified in asking, "What is the sense of being really in existence?"

But all this asking comes to an end satisfied by a proper

answer, if and when an intrinsic value is declared to be the meaning of existence, or better, existence itself.

The identification of existence with value has started again to dominate the views of recent thinking, such as Whitman's poetry and Nietzsche's philosophy of the Dionysiac life. Both are irrationalists regarding the fact of pure existence. But both are rationalists, too, as to the determination of human affairs by the cool soberness of scientific spirit. And many Christian philosophers of the Middle Ages were rationalists too. St. Thomas Aquinas was one of the most radical rationalists of all times. But, at the same time, he was an ardent believer in the irrational core of the Christian faith. And so was Schelling, the author of the ultra-rationalistic "negative" philosophy as well as of the ultra-irrationalistic "positive" philosophy.

How is this possible? Just because of that absolute gap and disparity which separates ideas or universals—the objects of sober reason or understanding—on the one hand, and existence *qua* existence—the object of ecstatic intuition—on the other hand.

Søren Kierkegaard, in a way the disciple of Schelling, made this radical gap between rational ideality and irrational reality the principle object of his thought. Moreover, he focused his attention on what he called the Paradox, namely, the astonishing fact that, although it is beyond human understanding, it happens nevertheless that the insurmountable abyss between idea and reality is leaped over by divine creation and human existence. By divine creation, for no thing exists because it was put into existence formerly, but its existence is due to a continuously renewed act which can be intuited as leap from a status of possibility to the status of a jubilant being there: the what of the thing, by the very act of its materialization, receives the fullness of concreteness.

The abyss between idea and reality is leaped over, furthermore, by human existence. For human existence is not a static being—there either, but is individualization by decision. And decision is the leap out of the state of infinite possibilities into the materialization of only one, at the expense of all the others. A man does not exist as truly himself as long as he remains in the state of enjoying the power of infinite possibilities still left to him. And no reasonable calculation promotes him from this state of mere possibilities into the state of real existence. Only by a decision which is risk and restriction of his many possibilities does man become an individual that is real or existing. In other words: The resolute renunciation of an infinity of possibilities, instead of reducing man to poverty, provides him with the fullness of existence and with the absolute significance of uniqueness or indi-

viduality. Moreover, every real decision ends in action, and every action, once performed, can not be canceled or reverted in all eternity because of the irreversibility of time; that is, it is just the temporality of decision which provides it with eternal meaning.

All these are phenomena of obviously very paradoxical or irrational character. Kierkegaard made them the object of very profound observations. But what passes at the present time as *existentialism*, represented particularly by Heidegger, is in radical contrast to Kierkegaard's *existentialism*. The basic presupposition for Kierkegaard's irrationalism is the distinction made between essence (ideality) and existence (reality). To Kierkegaard "existence" is irrational as leap from ideality into reality. But the contemporary *existentialism* denies expressly that basic difference between essence and existence. Furthermore, to Kierkegaard, irrational is "the infinite within the finite." But the contemporary *existentialism* denies infinity, it even denounces it as an imaginary escape from man's finitude or nothingness as essentially mortal, and fixes man onesidedly in his finitude or nothingness as his true existence. And this is done by violent distortion of reason and evidences concerning the nature or essence of time. So, for instance, Kierkegaard's paradox of eternity within time of the human decision is changed into an irrational act of human determination where temporal succession is retroverted into a state of coincidence of temporal tenses, with future death dwelling within the present tense. Moreover, extensive time, in Kierkegaard's view, is an objective idea or nature (essence), too, which needs actualization in order to become real; time is created, also. But in Heidegger's view, that extensive time changes into a *modus* of not genuine existence itself; it is decaying existence.

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PSYCHIATRIC AND PSYCHOLOGICAL CONTRIBUTIONS TO ETHICS¹

THE fundamental assumption of this paper is that the ultimate goal of man is his own happiness, and that he owes no basic allegiance to any power outside, or greater than, himself. This, however, does not imply that man is, or can be, an isolated entity; for man, as Aristotle would say, is naturally a social being. There is no genuine conflict between a man, when he pursues his own real

¹ I wish to express my thanks to Professor James Gutmann of Columbia University for several helpful criticisms of this paper.

good² and happiness, and the welfare of others. On the contrary, it is only when he pursues, and attains, his own good that he can contribute most to society.

There is an assumption running through the history of philosophy to the effect that man can know himself, and that he can act in harmony with this self-knowledge. Know thyself, said Socrates. Virtue is knowledge. Knowledge of self and knowledge of the relations and implications of one's acts make excellence possible. This thesis is, I think, fundamentally sound. But philosophers have lacked adequate means of attaining self-knowledge, and knowledge of human relations, although one is amazed at the amount which an Aristotle or Spinoza knew.

The time is approaching when a more adequate knowledge and more adequate techniques will be at the disposal of ethical philosophers. In the past many of them have believed that by means of introspection and dialectical manipulation of ideas, one can gain a sufficient knowledge of human nature. They did not have the psychological knowledge and insight necessary for a true appraisal of man as he is, and as he might be. And an ethical system must take account of man's emotional, as well as his intellectual, make-up.

A human being is not a disembodied intellect. He is a being endowed with intellectual, emotional, and sensuous powers, needs, and potentialities. A human being is a personality. Personality is the product of interpersonal or social relations, and has its being in such relations. Therefore, a person is not an isolated and self-contained entity. On the contrary, when for certain reasons a person is obliged to live apart from society, with no, or inadequate, psychological and moral solidarity with his fellows, he becomes mentally ill. His personality disintegrates, and he becomes an a-moral being.

The discussion which follows is based on psychiatric and psychological findings and theories. That there be agreement in every detail as to the validity of these findings and theories is not necessary. I believe the ultimate value of a paper like this is to indicate a mode of approach to ethical theory.

I. THE DEVELOPMENT OF THE SELF

One may characterize human behavior as motivated by the need for satisfactions and the need for security.³ This does not mean that human behavior can be rigidly marked off into two totally

² The meaning of "real good" as used here is indicated later.

³ Harry Stack Sullivan, "Conceptions of Modern Psychiatry," *Psychiatry: Journal of the Biology and Pathology of Interpersonal Relations*, Volume III (1940).

different kinds. In actuality those needs are inextricably intertwined. But for preliminary discussion they are helpful in understanding the frequently baffling complexity of human behavior. Satisfactions involve sleep and rest, food and drink, sexual activity. The need for physical contact and for physical closeness also seems to be a biological phenomenon.

The need for security arises from the person's acculturation. From the moment of birth a person is subjected to cultural influences, through the media of significant other people: mother, nurse, father, brothers and sisters, who are "culture carriers." These "culture carriers" have themselves been socially conditioned; their personalities are, with rare exceptions, moulded according to the approved patterns of the culture. According to Sullivan's theory there is an emotional contagion or communion called "empathy," which is apparently biological, between the infant and the significant adults. "It is biological," according to Sullivan, "for the infant when nourished to show certain expressive movements which we call the satisfaction-response, and it is probably biological for the parent concerned to be delighted to see these things. Due to the empathic linkage, this, the reaction of the parent to the satisfaction-response of the infant, communicates good feeling to the infant and thus he learns that this response has power. Actually, this may be taken to be the primitive root of human generosity, the satisfaction in giving satisfaction and pleasure. . . ." ⁴ The pleasure and delight of the mother, and other significant adults, are, it is inferred, conveyed to him by this empathic linkage. He feels the pleasure and delight, and his sense of well-being, his "euphoria," is increased. At another time when they are disapproving and displeased with his performances, their disapproval is conveyed empathically. The infant feels the disapproval, and his sense of well-being decreases. On this occasion the infant is believed to undergo acute suffering. Of course, the infant does not understand what is happening to him, but the suffering is no less painful on that account. As the infant develops, he is more and more subjected to training, to deliberate acculturation. This means that some acts are approved and others disapproved, with a consequent increase or decrease of his sense of well-being, of good feeling, of euphoria.

At any rate, the impulses, the biological strivings, are socially conditioned, moulded as to their quality and form of expression, according to the approved patterns of the culture. Thus, the attainment of satisfactions according to the culturally approved patterns tends to cause a profound feeling of well-being, of self-

⁴ *Lc.*, p. 8.

approval, of security. As the infant grows older, as he learns to make rudimentary distinctions and discriminations between himself and the rest of the world, he begins to "catch on" to what has been happening. And it seems to be biologically inherent that the infant or young child will, if possible, avoid the loss of euphoria. So with the advance of physical and neurological development, and with deliberate acculturation, the child learns to concentrate his attention on acts which bring approval and disapproval. He must in order to gain the one and, as much as he can, escape the other. His alertness becomes concentrated on that. Other needs of his personality, even if very important, are not so carefully noted, because they do not bring any marked approval or disapproval, and hence any marked increase or decrease of euphoria.

Out of the concentrated and focused awareness of the child of approval and disapproval for the purpose of obtaining and maintaining satisfactions and euphoria, the self is evolved. The self is composed and compounded of the approvals and disapprovals of the significant adults, and, since they are "culture carriers," of the society they represent. The self has been compared to a microscope in its function. It facilitates the conscious awareness of activities, thoughts, feelings within its scope. But also, on the analogy of a microscope, it limits and restricts awareness. Whenever there is a tendency to overstep the margin, to widen the scope of the self, intense uneasiness, anxiety intervenes. The anxiety-provoking activities are altered, or awareness of them is confused, or blotted out. Thus the self is self-perpetuating. It tends strongly to retain the characteristics and direction acquired in early life.⁸ In Sullivan's words:

The self dynamism is built up out of this experience of approbation and disapproval, of reward and punishment. The peculiarity of the self dynamism is that as it grows it functions, in accordance with its state of development, right from the start. As it develops, it becomes more and more related to a microscope in its function. Since the approbation of the important person is very valuable, since disapprobation denies satisfaction and gives anxiety, the self becomes extremely important. It permits a minute focus on those per-

⁸ The processes by which unwelcome experiences are not noticed is called by Sullivan disassociation. They are as yet imperfectly understood. Not all processes occurring outside conscious awareness are disassociated. Some are "selectively inattended." The difference is this. Processes which are selectively inattended can, when pointed out to a person, for example, by a friend, be brought to consciousness, be accepted by, or into, the self. When a well-meaning friend points out disassociated processes, no such expansion of awareness can easily happen. Usually the well-meaning friend's efforts arouse anxiety, followed by anger and "heated" denial. Anger is one of the mechanisms by which the self maintains its autonomy and prevents, or tends to prevent, the expansion of awareness.

performances of the child which are the cause of approbation and disapprobation, but, very much like a microscope, it interferes with noticing the rest of the world. When you are staring through your microscope, you don't see much except what comes through that channel. So with the self dynamism. It has a tendency to focus attention on performances with the significant other person which get approbation or disfavor. And that peculiarity, closely connected with anxiety, persists therefore through life. It comes about that the self, that to which we refer when we say "I," is the only thing which has alertness, which notices what goes on, and, needless to say, notices what goes on in its own field. The rest of the personality gets along outside of awareness. Its impulses, its performances, are not noted.⁶

It is inherent in the nature of the self-dynamism to find in others only that which is one's self. Since the self is made up of reflected appraisals, early acculturation determines whether or not the person grows up with adequate self-respect, and hence respect for others. The child who is treated with affection acquires this self-respect; one who is not, acquires a self-derogatory attitude, and hence a lack of respect and affection for others. Again in Sullivan's language:

The self may be said to be made up of reflected appraisals. If these were chiefly derogatory, as in the case of an unwanted child who was never loved, of a child who has fallen into the hands of foster parents who have no real interest in him as a child; as I say, if the self dynamism is made up of experience which is chiefly derogatory, then the self dynamism will itself be chiefly derogatory. It will facilitate hostile, disparaging appraisals of other people and it will entertain disparaging and hostile appraisals of itself.⁷

In other words, it is not as ye judge so shall ye be judged, but as you judge yourself so shall you judge others.

Thus the basis for man's attitudes toward himself, and therefore toward others, is acquired before he has learned to think. The most pervasive and "deep-seated" attitudes of people are, to a large extent, at any rate, acquired before they can discriminate "good" from "bad," when they are, to a large degree, spiritually and physically helpless.

But the restrictive, controlling function of the self is not absolute. Some needs and desires, like the need for companionship and sexual desire, are so powerful that they may "erupt" into conscious awareness in spite of great anxiety and suffering. Children, at least in the earlier years, retain considerable plasticity, considerable ability to profit by corrective experience. Most people, in varying degrees, of course, do learn from later experience, however superficial the learning may often be.

Man is therefore not a completely helpless victim of unfortunate

⁶ *L.c.*, p. 10.

⁷ *L.c.*, p. 10.

experience, that which limits and distorts the self, thwarting self-respect and the ability to obtain and maintain satisfactions and security. Intelligence can still play a great rôle. In fact, this is the central rôle of intelligence.

Nevertheless, the limiting, controlling function of the self, and hence of the culture one lives in, is enormous. The present state of cultural development is obviously gravely inadequate, so that, according to Sullivan, most people, from a period previous to adolescence on, "become inferior caricatures of what they might have been."⁸

II. THE SIGNIFICANCE OF SELF-DEVELOPMENT FOR ETHICS

The growth and expansion of awareness of the self should be a guiding principle of any ethical system.⁹ In so far as satisfactions and security are thwarted, one is powerless, helpless. Powerlessness, helplessness, mean not merely than an otherwise productive human being is rendered unproductive. Powerlessness arouses rage and destructive attitudes and behavior, sometimes gross, sometimes subtle and indirect. (Even animals react with rage to immobilization.) To some degree, depending on circumstances, the destructiveness, because one functions interpersonally, is vented on others. Society to at least some small degree is thus injured. If such a person is a parent, for example, the destructiveness may very well be devastating to the offspring.

In every human being, some experiences, desires, and needs are "disassociated" from discriminated awareness. This does not mean that they are made impotent or destroyed. Some needs, such as the need for companionship, self-respect, the satisfaction of

⁸ *L.c.*, p. 27. The other writer, Erich Fromm, to whom I am greatly indebted, uses a terminology which is somewhat different from Sullivan's. There are also important theoretical differences which I do not discuss because such discussion would overcomplicate matters, and it does not seem necessary for the purposes of this paper. Fromm distinguishes between a "real self" and a "social self." The real self refers to "the kernel of one's total personality" ("Selfishness and Self Love," *Psychiatry* (1939), pp. 507-523). This real self may never be realized, or actualized, and affirmed. Many people, he says, give up the struggle to realize and actualize this kernel of the total personality at an early age. They replace it by a social self offered to them by society.

I wish here merely to mention some important differences between Sullivan and Fromm. They can be understood only by close study.

⁹ In Fromm's terminology, the realization, or actualization, and affirmation of the "real self" should be a guiding principle of any ethical system. For Fromm, there can be no genuine security without the realization of one's real self.

man's sensuous desires, are so powerful that, if disassociated, they block the person's capacity for effective living.¹⁰ But such needs will still exist. They will be manifested in various ways outside the person's conscious awareness.

In such a case, intelligence has no opportunity for deliberately noting, examining, and testing such behavior. Its status is, or tends to be, blind and irrational. An absolutistic ethics which forbids the attainment of vital needs and desires does not thereby destroy them. It drives them further "underground," so that they are satisfied haphazardly, furtively, and inadequately. Any ethical system which imposes arbitrary limits and restrictions to the development of the self is, to that extent, unsound, no matter what sanction it claims. Of course this does not mean that sado-masochistic or destructive desires, developed because of early experience, the thwarting of a fundamental need to have ability, to obtain and maintain satisfactions and security, disparaging disapproval, hostility, hatred, sadistic domination, are to be encouraged. In the first place, a person who has had fortunate life experience, who has been accepted and loved by the parents and significant others, will not, at least on the whole, manifest strong destructive tendencies unless in self-defense. Only in an ideal culture are people entirely free of sadistic and destructive desires. But a sound ethical system will encourage and foster the attainment of satisfactions and security. It will encourage the need to be and to feel capable, to have ability, to have power. It will encourage self-respect, self-love, and respect and love for others, which are conjunctive aspects of the same experience.

Needless to say, it will strongly disapprove of irrational hostility and destructiveness. This does not mean that it will attempt to get rid of them by magical performances, by calling them sinful, by pious exhortation. Intelligence, collective as well as individual, will have to be employed. Goals will have to be formulated—a primary function of any sound ethical system—and their conditions and consequences.

At this point it may be desirable to explain briefly the meaning of a few terms as they are used in this paper. These terms are *masochism*, *sadism*, and *destructiveness*.

Masochism is usually characterized by "feelings of inferiority,

¹⁰ However, it must be pointed out that a relatively few gifted people have made great achievements in spite of very unfortunate and thwarting early experiences and in spite of low self-esteem and insecurity. It appears that the environment must be sufficiently challenging to arouse one's latent potentialities. It may be that the factor of native endowment enters also.

powerlessness, individual insignificance."¹¹ People who manifest masochistic traits may complain and assert they want to overcome them, but "unconsciously some power within themselves drives them to feel inferior or insignificant." "Quite regularly these people show a marked dependence on powers outside of themselves, on other people, or institutions, or nature." They are submissive. They feel they can do little, or nothing, on their own initiative. In the more extreme cases, they are driven to injure themselves and to cause themselves to suffer.

Sadism is characterized by wishes (1) to gain control over others, to dominate them, to have unrestricted power over them; (2) to exploit others, materially, intellectually, emotionally; (3) to make others suffer, or see them suffer, by humiliating, hurting, or injuring them, in various ways.¹²

Strange as it may seem, both masochistic and sadistic traits are found in the same person, though usually one kind will predominate.

Destructiveness is manifested by a wish to destroy others, emotionally, intellectually, even physically; or, failing that, to destroy oneself.

It would seem [according to Fromm] that the amount of destructiveness to be found in individuals is proportionate to the amount to which expansiveness of life is curtailed. By this we do not refer to individual frustrations of this or that instinctive desire but to the thwarting of the whole life, the blockage of spontaneity of the growth and expression of man's sensuous, emotional, and intellectual capacities. Life has an inner dynamism of its own; it tends to grow, to be expressed, to be lived. It seems that if this tendency is thwarted the energy directed toward life undergoes a process of decomposition and changes into energies directed toward destruction.¹³

In order to avoid misunderstanding, I want to state explicitly that I am not proposing a panacea for all social ills. I recognize the fact that, to use a hackneyed phrase, "an ounce of prevention is worth a pound of cure," and that the ills of modern society must be "treated" according to their economic, political, and social causes. But good resolutions, "lofty ideals," if they conflict with other aspects of one's personality, without self-knowledge and knowledge of interpersonal relations, are ineffective.¹⁴ Psychiatry and social psychology can contribute a good deal toward under-

¹¹ *Escape from Freedom*, by Erich Fromm, Farrar & Rinehart, 1941, p. 142. Compare *New Ways in Psychoanalysis* by Karen Horney, W. W. Norton and Company, 1939, Chapter XV.

¹² *Escape From Freedom*, p. 143. Compare Horney, *ibid.*

¹³ *Escape from Freedom*, pp. 183-184. Compare Sullivan, pp. 11-13.

¹⁴ On the whole, "one's beliefs in abstract concepts are far from guiding principles in interpersonal relations." Sullivan, *l.c.*, p. 47.

standing, both from the point of view of the individual and of society. Furthermore, the ethical philosopher should at least have the best available knowledge of human nature if his ideals are to make a fundamental appeal.

One may take it for granted that certain biological needs, sleep and rest, food and drink, are constants. Any sound ethical system must recognize the importance of these, not merely for the maintenance of life itself, but as basic to any subsequent development. In regard to sex, it is extraordinarily difficult to approach the subject rationally. Since Paul and Augustine, man's biological needs and desires have been depreciated. Sex in particular has been regarded as sinful. Of course, there have been exceptions to this attitude, notably Aquinas in the Christian tradition. On the other hand, Freudian psychology seems to have given sex an importance which it does not deserve. A sound ethical system will encourage the attainment of scientific knowledge about sex. It will recognize that sexual needs and satisfactions are to be guided and controlled, not to be suppressed without injury, regardless of taboos. But it will also recognize that sex is only one of many imperative needs, and should not be given a central influence. Indeed writers like Fromm have pointed out that preoccupation with sexual suppression has diverted men from more fundamental moral concerns.

Since the culture one grows in conditions and moulds man's basic biological needs, prescribes the forms for their satisfaction, makes possible the development and fulfillment of other powerful needs, any ethical system must pay close attention to acculturation. Healthy individuals are a product of a healthy society. Of course, to determine what is a healthy society is not an easy problem. In general it will foster the attainment of the needs for biological satisfactions and security, self-respect and respect for others, moral, intellectual, and emotional development.

It is not true, I believe, that the norms of conduct prevailing in a culture are *per se* ethically valid. Some kinds of activities are self-defeating. Sado-masochistic and destructive behavior belong in this group. In the first place, they prevent the experience of respect for oneself and others, which is the *sine qua non* of self-development along lines of security. Since human behavior is, for the most part, interpersonal, it has reciprocal consequences. Hostility is met with hostility, whether explicitly direct or subtly disguised. Sadistic behavior is met either with masochistic submission, an attack, or withdrawal. Destructive behavior is bound to meet with a like attitude and behavior, or at least defensive hostility, unless the other person is weak and helpless. These self-

defeating activities arouse in man, whether he is conscious of it or not, a contempt and hatred for himself which leaves him profoundly miserable.¹³ Such behavior pollutes and destroys all human happiness. There seems to be a fundamental biological tendency for living things to grow and expand, and to avoid noxious influences. It is, I believe, man's nature, not merely to live in any fashion, but live his life to the fullest, in so far as his own potentialities and the culture he lives in permit.¹⁴ Any activity which neither hinders one's own self-development nor that of others is good. In fact, the self-development of human beings is interdependent. We know that certain kinds of behavior are profoundly destructive of life's potentialities. Such behavior is ethically bad, even if committed in the name of the state, God, or some higher law.

Ethics must go hand in hand with sociology, as well as psychology and philosophy. With the possible exception of a few "variants," the culture they live in fixes the limits of the range of conduct men will manifest. Only knowledge can reveal the inadequacies of a culture along with personal shortcomings. A person does not grow and develop in a vacuum. Since human beings function interpersonally, they need the society of others, not merely to avoid loneliness, or attain satisfactions, but also because one can learn the good life only by and through the society of others who have attained, or are on the road to attaining, the good life.

¹³ This phenomenon can easily be seen by psychiatrists and other skillful observers of human behavior.

¹⁴ See, Sullivan, *l.c.*, pp. 48, 49. "Growth implies incorporation of chemical substances for the somatic organization, and of cultural entities for the personality. Deficiencies in either field may be disastrous. Noxious entities may be incorporated from either field. The body at birth, has some capacity for selective relationship with environing physico-chemical entities; this capacity is, however, tenuous and increases greatly during infancy and childhood. The personality also, in the beginning, may be presumed to have certain limiting capacities. We have seen how the self comes presently to govern its own growth. Some people grow up in environments deficient in iodine, and, therefore, are distorted in the fashion that we call cretinism. Some people grow up in environments the other people of which are deficient in self-respect, and therefore, are distorted in the fashion that I have called hateful. But certain chemicals are necessary for the continuance of life itself, and some culture is necessary for humanness. Deficiencies and incongruities in acculturation are the handicaps, not acculturation itself.

"To carry this parallelism a bit further; as a person seeks within varying limits to correct deficiencies in diet, so also one seeks for experience which will correct his deficiencies in acculturation. This is another way of saying that there is a tendency to achieve mental health."

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THE JOURNAL OF PHILOSOPHY

ISOLATIONIST AND CONTEXTUALIST ESTHETICS: CONFLICT AND RESOLUTION

I. THE CONFLICT

THE conflict between isolationist and contextualist theories of art is the great divide in esthetic theory. Almost all philosophies of art can be classified as contextualist, or isolationist, or as mediating between the two.

I am employing my terms very broadly. An isolationist theory insists that art is distinct and separate from the rest of life. A contextualist theory asserts the integrality of art and life. When I use these terms I intend to designate no metaphysical or political doctrine, but merely to indicate these two different interpretations of the meaning of art.

As an example of the isolationist type of theory we may cite the statement of José Ortega y Gasset: "The new art . . . will not tolerate a confusion of frontiers. The desire to see frontiers between things sharply defined is a symptom of mental health. Life is one thing and poetry is another thing."¹ Likewise typical is the statement of Clive Bell: "To create and appreciate the greatest art the most absolute abstraction from the affairs of life is essential."² These statements stand in sharp contrast to such a contextualist point of view as that expressed by John Dewey: "Art is the living and concrete proof that man is capable of restoring consciously, and thus on the plane of meaning, the union of sense, need, impulse and action characteristic of the live creature."³ Or again, contextualism is expressed in the declaration of André Malraux: "All art is a means of possessing our destiny. And the cultural heritage does not consist in the works of art that men should respect, but rather in the works of art that help them to live."⁴

¹ *La Dehumanización del Arte*, Madrid, 1925, p. 47.

² *Art*, New York, no date, pp. 266-267.

³ *Art as Experience*, New York, 1934, p. 25.

⁴ Speech at the London Meeting of the Writers' International Association for the Defense of Culture, Summer, 1936, quoted in the *New Republic*, Vol. LXXXVIII (1936), p. 319.

In order to distinguish and define these contrasting interpretations, we shall discuss art from a threefold standpoint: the work of art, the artist, and the public.

(1) *The work of art.* The contextualist theory asserts, and the isolationist theory denies, that the work of art is an interpretation of external reality.

The isolationist theory excludes, as irrelevant to the *esthetic* approach, unless for the sake of a merely preliminary recovery of meanings, all consideration of the broad context of nature and human life: because the art work *as such*, according to this view, expresses nothing but itself and has no *external* organizing principle—that is to say, its elements and organization are not determined by any reference to the context of life or nature.

This doctrine implies that works of art are a certain class of objects and certain sorts of objects are not works of art. Since the work of art is virtually free from relations to external things, its value and meaning must attach to the *surface* constituents and the *surface* structure of the work as grasped in *immediate* content.⁵ Although thoughts and symbols may be components, as in literature, they do not, in their esthetic capacity, signify anything in the real world, they are not important for their truth, but are to be appreciated and judged only in their surface import, and in their fitness, congruity, or appropriateness within the work as a whole. Only works that can be characterized in this way are works of fine art, and consequently a sharp distinction must be made between such works, as, for example, poems, statues, paintings, and musical compositions, and, on the other hand, products of the utilitarian arts, such as locomotives, bridges, airplanes, factories, etc. These latter works depend in large part upon their functional relationship to other things, and, therefore, according to the isolationist theory, they are not esthetic.

The contextualist is committed to no such view. He will probably argue that even the most "abstract" work of art, such as a "non-objective painting" or an example of "pure music," has some reference to the surrounding world of actual life, and that its worth depends partly upon this reference. Moreover, in the case of the "representational" arts, such as the novel, the interpretation of life may be the very core of the work and may possess not only intrinsic, but great instrumental, value. The contextualist theory, in fact, rejects the sharp distinction between the fine arts

⁵ For an elucidation of the esthetic meaning of the words "surface" and "immediate," cf. D. W. Prall, *Aesthetic Analysis*, New York, 1936, Ch. I; and the amplification of Prall's theory by Andrew Ushenko, "Esthetic Immediacy," this JOURNAL, Vol. XXXVIII (1941), pp. 68-72.

and the useful arts. John Dewey, for example, believes that art is preëminently that state in which action and contemplation blend, in which means and ends interpenetrate. William Morris, taking a similar view, declares that art includes not only "painting, and sculpture, and architecture, but the shapes and colors of all household goods, nay, even the arrangement of the fields for tillage and pasture, the management of towns and of highways of all kinds, in a word, . . . the aspect of all the externals of life."⁶ In such a passage, he is using "art" in the sense of esthetic art and is breaking down the rigid distinction between such art and so-called practical art.

(2) *The artist.* The isolationist theory asserts that the artist is a natural outsider aloof from society, pursuing art as a self-sustaining activity, neither produced by the world nor reacting upon it. The artist, thus shut up in his private world of imagination and peculiarly esthetic emotion, is bound to appear an eccentric. This point of view is implied in Vasari's account of the idiosyncracies and irresponsibilities of some of the artists of the fifteenth century. Since the Renaissance, this view has been expressed many times, but it was most widely prevalent in the nineteenth century. Mürger's account of the "bohemian," Balzac's portrait of "the poor poet," Eichendorff's depiction of "the good for nothing," Poe's idealization of the impractical dreamer, Wilde's notion of the esthete, Gautier's celebration of the "pure" artist, are but a few of the expressions of the isolationist theory.

This interpretation, which is still widely prevalent, has certain effects upon the artist. It makes him think that he is concerned with self-expression without regard to a public, or with communication of unique esthetic feelings to a select audience. It incites him to free his art from all "extraneous" elements, to shun exhortation, conviction, representation, perhaps even meaning. It reinforces his tendency to be a "bohemian," to kick over the traces, to be disdainful of the mores of society, to stand aloof from the life problems of his fellow men. It encourages him to break with tradition: to express the "original," the bizarre, to be an individualist in his art. This fact helps to explain the bewildering succession of art movements in recent years, such as symbolism, post-impressionism, cubism, futurism, vorticism, imagism, expressionism, constructivism, dadaism, surrealism, existentialism. There is a tendency to embrace each new movement because it offers an

⁶ "Art under Plutoeracy," *Collected Works of William Morris*, Vol. XXIII, London, 1915, pp. 164-165.

opportunity to be untraditional and to drop the movement as soon as it becomes a tradition.

According to the contextualist interpretation, on the other hand, the artist works within great traditions, he is nothing without them, without the essential life of mankind that is reflected through these traditions. Even when he is revolting against a tradition, as indeed he must when it becomes sterile, he is still being influenced by it and is in search of new values which can be shared. Oftentimes artists who are thus in "revolt" are returning to essential old traditions, as in the case of Rubens restoring painting to its Flemish sources, or Yeats reverting to the simplicity and romance of old Irish song.

The contextualist, moreover, contends that everybody is, at least potentially, an artist in a measure. The exclusive concentration of artistic talent in certain individuals is by no means natural or inevitable; it is an effect of the denial of opportunity to the masses, the relative neglect of a very important side of human education, and the extreme division of labor characteristic of our economic order. In so far as these conditions are eliminated, the creative life will become the common patrimony of man. As Marx has said, we should look forward to the time when there will be no *mere* painters, but men who, among other things, also paint. Each man will practice his occupation without being completely absorbed in, and identified with, his work.¹ Maintaining that the artistic impulse is thus quite normal, the contextualist rejects the isolationist tendency to depict the artist as "queer," abnormal, more or less neurotic.

(3) *The public.* If we turn now from the artist to his audience, we find, as we might expect, that the isolationist theory insists that the contemplation of a work of art is a unique esthetic experience, quite different from any other attitude. For example, Kant limited the esthetic attitude to a state of completely disinterested contemplation whose appropriate object is pure abstract design, non-functional and non-representational. "Every one must admit," he declared, "that a judgment about beauty, in which the least interest mingles, is very partial and is not a pure judgment of taste."² Since the death of Kant a great many writers have emphasized the detachment or disinterestedness which, they maintain, necessarily characterizes the attitude of the beholder of a work of art. Among such theorists, Roger Fry contended that there is a unique and disinterested esthetic emotion directed solely to the apprehension

¹ Marx, *Deutsche Ideologie*, in *Gesamtausgabe*, I, Berlin, 1927, p. 221.

² *Critique of Judgment*, London, 1931, p. 47.

of relations *internal* to the work of art. This emotion, he declares, "seems to be as remote from actual life and its practical utilities as the most useless mathematical theory."⁹

The effect of such esthetic isolation, we are told, is to vivify. The peculiar brightness and intensity of imaginative vision can not be achieved unless the mind concentrates, unless it insulates and focalizes its powers. Within the exclusive world of the esthetic experience, as Pater has said, the soul burns with its "hard, gem-like flame"; it crowds "as many pulsations as possible into the given time."¹⁰

The isolationist theory, moreover, contends that the beholder of the work of art should have certain criteria in mind in judging it esthetically. He should consider the work *not* in relation to anything which caused it, or which is signified by it, or which is an effect of it, but in itself, in its internal architectonics and its unique individuality. Or to put the same thought in terms of the Aristotelian "four causes": the contemplator or critic should not concern himself with the efficient and final causes of the work of art, since these are external to it, and therefore not esthetically relevant, he should be concerned solely with the material and the formal causes: with the artistic medium and materials grasped in their esthetic immediacy; with the artistic form judged in terms of its internal characteristics as contrasted with its external references. The tendency of the isolationist theorists, moreover, is to maintain that greatness in art is not to be judged in terms of its actual enrichment of mankind, but in terms of its appeal to a quite select group: the experts, the connoisseurs.

In contrast, the contextualist tends to take the view that works of art should be submitted to the wide judgment of mankind. He maintains that the sustained and democratic suffrage of the generality of audiences over a period of centuries is the safest criterion of greatness in art. He probably will admit that mankind's *reasons* for its esthetic judgments are worth little in comparison with those of an accomplished critic, but its *verdicts* may nevertheless be more trustworthy than those of a single individual or a few individuals, however expert they may be. According to this point of view, there is a fundamental rightness about a *general* consensus of opinion if sustained over a long period of time that is seldom found in individual judgments, however cultivated or articulate.

Moreover, the contextualist challenges the view that the beholder of the work of art is simply "disinterested." He contends

⁹ *Vision and Design*, London, 1920, p. 302.

¹⁰ *The Renaissance*, New York, 1900, pp. 250-252.

that the term "disinterestedness," or "detachment," or "distance," since it indicates merely an attitude of aloofness, can not account for the positive enrichment that art brings. In so far as interest is lacking, the esthetic experience is a blank, and can not be distinguished from any vacant state. Therefore, as Dewey has said, "'disinterestedness' cannot signify uninterestedness. . . . There is no severance of self, no holding of it aloof, but fullness of participation."¹¹

The contextualist will also contend that the attitude of the contemplator is not concerned with ends to the exclusion of means. As Dewey again has maintained, experience is most satisfactory when means and ends are indissolubly fused; and the adequate appreciation of works of art involves experience when it reaches this peak. Delightful as an immediate exercise in vivid apprehension, the appreciation of a work of art is at the same time an education of the mind and the organs of perception in new modes of experience. It is marked, not by the reduction of mental functions to a "pure" isolated act of contemplation, but by a greater inclusiveness of psychological factors.

According to the contextualist interpretation, moreover, the appreciation of a work of art is heightened by knowledge of its context. For example, a scholar steeped in knowledge of the Middle Ages will put tenfold more meaning into the reading of the *Divine Comedy* than will an uninformed person. To sunder an art object from such relations to the surrounding world is to impoverish it. If the appreciation as a result is more "pure," it is also more bare. So at least the contextualist would argue.

II. THE RESOLUTION

Both the isolationist and the contextualist interpretations have their dangers. Isolationism tends to make art irresponsible, precious, and dehumanized. Contextualism tends to make art impure, didactic, and tendentious. If we follow the isolationist, we are in danger of falling into a sterile purism; if we follow the contextualist, we are in danger of sacrificing the autonomy of art. We must, therefore, retain the genuine insights of isolationist esthetics and yet advance to the broader and richer interpretation of contextualism.

I suggest that the conflict can be resolved if we can show that art involves a harmonious fusion of the two opposites, isolationism and contextualism.

We are encouraged to hope that this is the case by the very

¹¹ *Op. cit.*, pp. 257-258.

character of art. Art is the great reconciler of opposite poles which, in our practical life, ordinarily exclude each other. More than any other form of human experience, it combines such contrasting moments as variety and unity, familiarity and strangeness, repose and stimulation, order and spontaneity, the Apollonian and the Dionysian moods. In great tragedy, for example, the extreme intensification of emotions, far from excluding a sense of repose, produces the dynamic calmness which Aristotle termed "catharsis." Likewise, as Freud has pointed out, art involves the harmonious coworking of the conscious and the subconscious: the dream is inserted into the texture of waking life: the unreal and the real are fused. Or, again, as Schiller has indicated, art is the reconciliation of law and impulse: the form, the pattern, the "lawfulness" of the experience become the expression, not the repression, of impulse. Or, as many philosophers have realized, the images of esthetic experience are seemingly objective and yet are dyed in the emotion and sensibility of the beholder: the duality of subject and object disappears: the work of art is, in a sense, myself, and I am the object, since I project myself into it. Because art, in combining such opposites, is more inclusive than other modes of experience, Schiller, in his *Letters on the Aesthetic Education of Man*, is justified in his contention that it makes man whole, and that man is only whole when he engages in such activity.

The question for us, then, is this: Is there a pair of opposites, one of which is the basis of the isolationist theory and the other the basis of the contextualist theory; and do these two opposites, like the other opposites that I have mentioned, harmoniously interpenetrate in esthetic experience?

There is one answer to this question that seems to me quite inadequate. A number of writers have suggested that the isolationist and contextualist interpretations can be reconciled by a proper demarcation of their respective spheres. According to this viewpoint, if we consider *pure art* or art *qua* art, the isolationist approach is *exclusively* valid; but if we consider *impure* art or the way art in actual life becomes intertwined with the other strands of culture, the contextualist approach is imperative.

I regard this as a pseudo resolution of the conflict. The contextualist is not merely asserting the banal and obviously true proposition that art is often entangled with other forms of culture and that it must *then* be interpreted in terms of its entanglements. Nor is he merely asserting that pure art has various educational, psychological, moral, religious, economic, or political causes and effects, and that these must be taken into account in a full in-

terpretation of art. Any intelligent isolationist would admit that such indeed is the case. Of course, the contextualist does insist much more emphatically than the isolationist that art is intertwined with non-art and that it has non-esthetic causes and effects; but he is also asserting something far less obvious and more controversial. He is asserting that art *as art*—esthetic art—even in its purest form can not be validly interpreted except in contextualist terms.

Our question, therefore, is this: Does such art combine the isolated and the contextual, and, if so, in what manner?

The isolationist doctrine insists that art has a unique essence which separates it from other activities, whereas the contextualist theory maintains that art has a broad human function which unites it with the rest of life. Both are right. Art combines two moments, the unique and the generic, the isolated and the contextual. The unique element is to be found in the specific image—in its creation, contemplation, and intrinsic content. Such an image can be made clear and vivid only when it is grasped in isolation. Try to get a vivid image, for example, of a house: you can only do so if you "frame" it, isolate it, seize its distinct individuality. On the other hand, when you grasp the generic meaning of a house, you relate it to many physical and social facts: to the family, the household economy, the neighborhood, the gathering of friends, the work of the architect and the carpenter, the physical materials and the style of the building. The effect of the image is to isolate; the effect of the meaning is to connect. My contention is that art combines both the image and the meaning, although the first is usually explicit and the second implicit. The meaning in art, however, is not a bare *factual* concept: it is always a generic value.

To elucidate this statement, I must define what I mean by art. It is the expression of values: the deepening and clarifying of intrinsic values by imaginative expression. The values expressed in a work of art, moreover, are partly unique, and, as unique, they do not even exist until they are expressed; but they also fall within a genus, and thus have a universal character. Artistic expression means the creation of a *specific* variant of some *generic* value. The specificity is the basis of the isolationist theory, the generality is the basis of the contextualist theory.

Art, I say, is the expression of values. A value, as I shall use the term, is an interest: an attitude of liking or disliking, of preference, appreciation, or appraisal. It is a hedonic, emotional, or volitional state, perhaps qualified by judgment. The artist expresses this state by fusing it with concrete qualities. There is

nothing strange or unusual about this fusion of values with qualities. Before analysis has broken experience into "objective" and "subjective" components, it is shot through with value-qualities. Wordsworth, describing the sensations of his boyhood, speaks of "the souls of lonely places," and "the characters of danger or desire" impressed "on caves and trees, upon the woods and hills."¹² Shakespeare remarks that the daisies, violets, and cuckoo-birds "do paint the meadows with delight."¹³ Whitehead observes: "We enjoy the green foliage of the spring greenly: we enjoy the sunset with an emotional pattern including among its elements the colors and the contrasts of the vision."¹⁴ Experience of this sort, in which values are inextricably fused with specific qualities, is characteristic of all life in its presentational immediacy, before analysis has done its work of dividing and abstracting. Esthetic experience is experience *at this level*. The artist creates a work of art which transmits this sort of experience.

He puts into his work the values that excite and express his interest. He does this by fusing these values with concrete qualities, thus recapturing the integrality of esthetic experience as I have described it. The work which he thereby creates exhibits not only primary and secondary qualities but also tertiary qualities such as urgency, cheerfulness, serenity, and grace. The work of art, which exists only when the imagination is kindled, is therefore not a physical but a phenomenal object, possessing those qualities that the mind lends to it. It is this phenomenal character, and the presence of tertiary qualities, that make possible the expression of values. Such expression is achieved not only by representation and connotation, but by pure abstract design, such as a Bach fugue or a Moorish arabesque. Since the time of Plato and Aristotle, philosophers have recognized the value-expressiveness of harmonies, rhythms, patterns of color, three dimensional shapes, and other non-representational elements. These can be pleasant or unpleasant, attractive or repulsive, *gay, sad, exciting, sublime, or embody* some other value, positive or negative, felt by the artist.

When art is so conceived—and this is my main point—it combines the unique and the generic, the isolated and the contextual. Artistic expression means the creation of a specific variant of some generic value, such as delight in activity, the enjoyment of functional economy, or the love of harmony. The artist is aware, at least vaguely, of the generic value before he starts to create, but

¹² *Prelude*, Book I, lines 464-479.

¹³ *Love's Labor Lost*, Act V, Scene 2, line 907.

¹⁴ *Adventures of Ideas*, New York, 1933, p. 321.

the variant is created or elaborated in the very act of creation. What distinguishes an artist from an ordinary person is very largely his ability to imagine some new concrete variation of the old abstract theme. About two-thirds of the poems in the *Oxford Book of English Verse* deal with love or death, but each one is a unique creation.¹⁵

The basis of the isolationist theory is provided by the *variant* factor—by the concrete, specific, original, immediate component in esthetic experience. The value-expressive character of any artwork emerges, in part, from the pattern of word, sound, color, or figure as immediately moving apart from any *external* qualities or objects of which it may be the sign. The isolationist theory has emphasized the pure esthetic immediacy, the uniqueness, the inefability of particular qualities when thus embodied in the work of art. In so far as we concentrate solely upon this component in artistic experience, our senses and concrete imagery *do* fence us off from the world. In so far as the artist, moreover, is exclusively absorbed in this phase of art, he concerns himself not with "the why, the whence, or the whither" of things, nor with their general import or ulterior connections, but with "the what" as immediately apprehended. The experience out of which a work of art springs stirs the mind because of no merely ulterior reason, nor because it is a sign or correlate of something absent, but because it is intrinsically moving. The work of art, as the embodiment of such experience, is likewise exciting in its own right, and therefore the beholding of it involves an intense absorption in the essence or "quiddity" of certain values as immediately present to sense and imagination. This is the underlying truth in all isolationist theories of art.

The basis of the contextualist theory is provided by the *generic* factor. Works of art possess "depth meanings" or "root values"—meanings or values of universal scope below the sensuous surface, underneath the pure esthetic immediacy of the specific qualities. Housman writes:

By brooks too broad for leaping
The lightfoot boys are laid.¹⁶

These lines evoke not only the particular images of ardent youths forever slumbering in graves beside impassable streams; they no less suggest the meeting with ultimate obstacles, the inescapable

¹⁵ For a fuller interpretation of the generic values in art and their relation to the specific, see my article, "The Root Values of Art," this JOURNAL, Vol. XXXVIII (1941), pp. 324-332.

¹⁶ *A Shropshire Lad*, New York, 1922, p. 83.

frustration, the brevity of life, the finality of death. Even in the case of so-called non-objective art—"pure music" or abstract geometrical painting—our response depends in part upon a socially recognized and a socially constructed scale of values. The common lives of men in association—"far more powerful than the life experience of any one individual"—have amassed a vast ensemble of affective experiences and value-qualities which are socially accessible and constitute the common stock for the concrete emotionally moving communication of values.¹⁷ Wilhelm Worringer, the German art historian, has shown that the expressiveness even of straight lines or curves largely depends upon such social universality.¹⁸

The generic values form the "realistic," "broadly human," and "social" content of esthetic experience. When given a determinant imaginative expression, they constitute an interpretation of life which may possess great instrumental, and not only intrinsic, value. Innumerable factual statements have been made about the sorry lot of ordinary workers; but think how much more vivid the problem becomes when delineated by a drama such as Hauptmann's *The Weavers* or by a novel such as Steinbeck's *The Grapes of Wrath*. Many people have feebly imagined what war must mean, but Goya's lithographs of the Napoleonic war in Spain or Picasso's mural of the bombardment of Guernica, quickens the imagination into an intense appreciation of military brutalities. Newspaper readers have perused many accounts of the effect of the atomic bomb, but until John Hersey depicted, as only a literary artist could, the effect of the bomb upon a number of characters in Hiroshima, the insanity of the event did not come alive in the minds of Americans thousands of miles from the scene. The contextualist, pointing to such examples, can validly contend that the work of art may reveal concretely, as nothing else can, the sharp edge of actuality.

Moreover, the conception of art as the expression of values, in which the generic value is given its specific variation, fully justifies the contextualist view that art is broadly human. Life, in its very essence, is the experience of values; and hence art, which alone can express values concretely, is terribly relevant to life, and is limited in its scope and depth only by its autonomous nature and by the bounds of life and human genius. Art not only expresses but creates values; for as Nietzsche truly declares: "Valuing is

¹⁷ Cf. Christopher Caudwell, *Illusion and Reality*, London, 1937, especially pp. 166-167.

¹⁸ Cf. his *Abstraktion und Einfühlung*, 12th edition, Munich, 1921, and *Form in Gothic*, London, 1927.

creating; hear it, ye creating ones! Valuation itself is the treasure and jewel of the valued things."¹⁹ Art is thus fundamental to the whole enterprise of living as a means of self-expression, communication, and creation. As Whitehead has said, "The habit of art is the habit of enjoying vivid values";²⁰ and no other form of activity is more important in the cultivation of the human spirit.

Art is, indeed, as the isolationists contend, a unique activity, since it has a distinctive purpose—the evaluation of human experience in concrete terms; but it is also, as the contextualists maintain, a fundamental human function and expresses the broadest human interests. In its widest meaning, esthetic art is any selection or control of concrete qualities so as to evoke an acquaintance with the values realizable through them. From this standpoint, it includes the laying out of parks, the planning of cities, the building of highways, the designing of homes inside and out, the making of functional objects with a view to their expressive appearance—any activity, indeed, in which there is a show of concrete qualities, and in which man's taste controls that show so as to express his sense of values. Thus art is as wide in its province as the contextualists assert; yet, as the concrete expression of values, it is not to be confused with any other of the distinctive pursuits of man, and it is therefore as autonomous as the isolationists contend. Art is art, and not morality, religion, technology, or social reform; but neither is it an anodyne or a piddling luxury or an esoteric escape from life.

As the contextualists like to point out, moreover, the artist in some respects is not so very different from creators in other fields. He has no monopoly upon imagination or subconscious creation. There is a striking similarity, for example, between Mozart's account of how he composed his music and Poincaré's description of how he arrived at his mathematical discoveries. The manner in which Otto Loewi with a flash of insight made the discovery which won him a Nobel Prize in Chemistry, the way in which Kekulé in a vivid imagistic daydream solved the problem of the benzene molecule, the circumstances under which Descartes formulated his philosophy when in three dreams he discovered the "foundations of a wonderful science," are but a few of the many examples of the ability of scientists or philosophers to draw upon the resources of the imagination or the subconscious—to solve their problem by inserting the dream into the texture of waking life. Citing additional evidence of this type, Professor R. W. Gerard has de-

¹⁹ Thus Spake Zarathustra, New York, 1909, p. 74.

²⁰ *Science and the Modern World*, New York, 1926, p. 287.

clared: "Many have insisted that the imaginative process is different in art and in science. I see no basis for such a position. On the contrary, the creative act of the mind is alike in both cases."²¹

Although the mental processes are akin in the two cases, they are put to different uses. Art, in its ultimate form, retains the concrete character of the experience out of which it springs, whereas science is ultimately formulated in terms of abstract signs. Signs in art seem to me preliminary and instrumental to the consummatory experiences in which the art ultimately consists. They are simply memoranda of imaginative activity on the part of the artist and stimuli to evoke such activity upon the part of the beholder. In the moment of esthetic vision, they take on "flesh and blood" and function as no mere signs but as present values. The essence of a sign is that it gives us *mediated*, rather than immediate knowledge; and even an iconic sign, although it pictures its archetype, is but the surrogate for some original object or experience. The essence of a value in art, in contrast, is that it is imaginatively realized in its *immediacy* and concreteness. One of the principal differences between science and art is that the former, giving us knowledge by description, must employ signs as its *ultimate* subject-matter, but the latter, giving us knowledge by acquaintance, makes use of signs only as its *proximate* subject-matter, which must be superseded by a direct imaginative enactment of value-experience. So abstract is modern physical science that Bertrand Russell has even said that it would be possible for a congenitally blind man to know all of our physics.

Whereas science thus clings to formulae, art always presents a specific variant of a generic value. The artist always exercises a unique function and always expresses the unique and specific qualities of value-experience. Consequently, the isolationist theory is correct in emphasizing the individual rôle and the unique vision of the artist. Yet this is but half the story. The artist is also exercising a fundamental human function which has its generic aspects and its roots in the social life of mankind. Therefore the artist is not like a mere neurotic, who is a prisoner of his own delusions, locked up in a self-enclosed subjective realm. He transcends his private wishes; he explores and creates by means of his art the values of mankind. As an active workman with a social function, he need be no more queer, no more separated from life than you or I. The frequent tendency in our society for the

²¹ "The Biological Basis of Imagination," *Scientific Monthly*, Vol. LXII (1946), p. 479.

artist to be a neurotic or an irresponsible "bohemian" is a reflection upon our social order rather than a universal necessity.

If we turn from the artist to the public, we find that the contextualist theory is correct in maintaining that the mass of men should judge the work of art, but the isolationist theory is equally correct in asserting that the expert should judge. It is safest to heed what both the connoisseurs and the generality believe since each group has certain virtues and limitations. The cultivated too often lack any deep foundation in the common life, and consequently their judgments are rootless. The function of art should be to contribute to the life of man, and mankind is in the best position to judge whether its life has been actually enriched. Since the generic factor in art flows from the common life, the common man is probably most keenly aware of it. The masses, on the other hand, too often lack the capacity to appreciate difficult art, or to separate the specific factor, the personal and original component, from its accompaniments and to judge it in itself. Perhaps there can be no reliable tribunal of esthetic judgment until mankind, split into the élite and the masses, is harmonized and made whole.

The fundamental fallacy of the isolationist has been to interpret art in terms of the specific component exclusively, instead of recognizing that it is one of two mutually supporting components within a relational whole. In art, as in all esthetic experience, the stream of experience is integral and undivided; nevertheless, within this unity, we have the specific pole and the generic pole, the immediate surface and the connoted universal factor. In making this statement, I do not mean to deny that the generic and specific components remain independent variables. Certain works of art are relatively generic and others are relatively specific; and either component can be independently increased or diminished. Yet both are present in every real work of art and the esthetic character is the result of their interpenetration. An object or experience that merely tickles the senses or stimulates the emotions without conveying any generic or "human" meaning, is not art: it is just a sensual pastime or vacuous melodrama. Also any object or experience that merely conveys abstract generic meanings without sensory concreteness or individuality is not art: it is, at best, science or philosophy. In art, the universal essence merges into the specific image, and the more seamless is the unity, the more perfect is the art. It is easy to overlook the generic element because it is submerged in a perceptual field; and the isolationists have disregarded it as a matter of principle.

We live in a culture with a relatively high degree of social

differentiation, specialization, and egocentricity; and under these circumstances there is a marked tendency to interpret art in terms of the non-generic component alone. Egocentric beings find in art egocentricity; specialists are prone to think that art is as detached as is their specialty; the members of a distinct economic class often suppose that art reflects only their exclusive interests rather than the integral life of mankind. On the other hand, in a totalitarian type of culture such as the Nazi, where individuality is sacrificed and men are trimmed and patterned according to the general edicts of the Minister of Propaganda, critics are prone to stress the generic component exclusively. Even in our society, men sometimes commit this contextualist fallacy. Such a narrow conception of art, formulated in terms of one or other of its modes, is bound to be stultifying. In art the poles meet, the extremes are harmonized, and mankind is enriched by the synthesis.

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THE CHALLENGE OF THE ARTS TO PHILOSOPHY

THROUGHOUT the history of philosophy, the problems of philosophy have been re-shaped and re-envisioned and solutions reconsidered as a consequence of new modes of knowledge and the exploration of new fields of experience and inquiry outside the range of narrowly philosophical analysis. Thus the whole conception of knowledge itself was transformed from that of contemplation of changeless being to that of experimental inquiry; moral sanctions and moral values came to be reformulated in terms of empirical investigation of consequences. In the nineteenth century the influence of biology came to be decisive in the whole approach to mind and nature itself, mind coming more and more to be seen as a complex form of animal behavior, and nature as a cycle of genesis and growth. In the twentieth century philosophy has been refreshed and reformed by concepts borrowed from the social sciences, witness the philosophies of culture and the highly socialized interpretation of morals.

It is the thesis of this paper that recent reflections upon the arts and the esthetic experience have consequences of importance for what may be called general philosophy. Studies in the psychology of art and the history of artistic styles and forms, consideration of matter and form, meaning and mode, the nature of the immediate and the unique as encountered in the experience of the arts, the problems of moral responsibility and moral conse-

quences of artistic creation or artistic enjoyment—all these have implications for problems generally regarded as the special province of philosophers. In problems arising out of a consideration of both the practise and enjoyment of the arts, it has become clear that there are no isolated problems of esthetics.

Thus, to take the most obvious instance, the problem of taste and judgment in the arts is, as Kant long ago pointed out, a special case and a special paradox of judgment. For taste, apparently subjective, capricious, irrational, and, beyond certain limits, apparently inflexible (so that our whims in the arts seem occasionally to be, as some one put it, whims of iron), yet seems to illustrate principles that involve standards and sustain universal judgments. But the arts involve human themes which affect and qualify judgments, and the effect, strong if ambiguous, of these themes and interests, of what Dewey calls "the human contribution" in the arts, raises questions not dissimilar to those raised in morals. Again, just as moral judgments begin with, or assume, certain preferences, tendencies, or capacities, so, with respect to the arts, taste, preferences (more or less direct, more or less undisguised) are the origins of judgments. In the experience of the arts we are face to face with the immediate sources of more complex and rationally formulated values.

But there is, it would appear, one aspect, especially in the analysis of the experience of the arts, that is suggestive for the problem and theory of morals. The whole literature of morals is filled with references to immediate values and ultimate goods, or ultimate good. In the mouths of moral philosophers both terms often seem empty abstractions or dialectical counters. "Intrinsic" is used to define where moral discussion begins or where it arbitrarily ends, and "ultimate goods" is a term used to define where it is alleged it must stop. In the experience of arts one is driven to such terms or their equivalent to identify ostensible and unmistakably recognizable aspects of the esthetic experience. The qualities, or quality, immediately perceived and felt with immediate pleasure, the delight enjoyed for itself, the things seen or heard with delight, the beauty that, if not a joy forever, is indubitably a joy here and now, are empirical illustrations, identifiable instances of intrinsic value. They are also examples and paradigms of those ultimate goods of which moral philosophers and Utopian social philosophers dream.

It may be said that experience of the arts illustrates and points up the fact that all values are intrinsic. Whatever can be defined as good or as a good in music, poetry, or painting is a good here

and now. Whatever its beauty is must be experienced in some present of some observer. The specific and unique beauty is a value immediate and intrinsic. By a different and more dialectical and circuitous path moralists have arrived at the same conclusion. Ultimately, whatever remote goods the good life may sustain must be experienced, like the qualities of a poem or a painting, in some here and now. In social organization and in individual action the conditions for the realization of any good are complex, as they are in the production of any work of art. But in the complicated conditions of modern industrial civilization, few goods are made so immediately and simply available as in works of art. Means are separated from ends, parts from wholes.

Many of the prohibitions and proscriptions of morals are in the interests of some ulterior good to be achieved, and eventually to become intrinsic and immediate, like blessedness or happiness. But whenever moralists have tried to denote rather than to define a good, they have had to cite such instances of immediacy and enjoyment as the arts afford to imagination, even in disordered lives and chaotic civilizations. Moral precepts are imperatives made in the interests of some further goal to be, like salvation or beatitude, eventually enjoyed. But whenever moralists have tried to define a good, they have had to cite such instances of lucid and radiant immediacy as the arts afford; the mystic rose, the light of ultimate blessedness, the harmony of happiness, these are borrowings from the arts of images of the delight that the arts provide. Even an instrumentalist theory of values pauses to linger over consummatory values, and any pragmatic test of goods has to translate good into pleasures felt, happiness enjoyed, good recognized and appreciated.

Ultimately all goods are intrinsic. That is one of the lessons of the arts. Intrinsically all goods are ultimate. That is another light that art lends to moral inquiry. If, as Aristotle suggests, happiness is man's ultimate good because happiness is valued for itself, then each experience of art is a small instance of ultimate good, for in interaction with it nothing further is sought, nothing, for the time being, desired. In the experience of the arts, there are innumerable instances of ultimate good, each unique and qualitatively different in kind as are goods experienced outside of the arts. There are two suggestions from the arts, then, as to the nature of ultimate good. One is that ultimate good is a name for the character of the ultimacy of goods wherever they are found; and ultimate good is also a name for the definitive character of good wherever it appears. Whatever is good, like a good painting

or a good poem, is good in and for itself, and not merely as an instrument to goods beyond itself.

There is another aspect of philosophy that is illuminated by the arts. Throughout the history of thought the relation of the immediate to the discursive, of the apprehended to the comprehended, of the intuited to the demonstrable, has been a problem for philosophers. In logic intuited axioms, in morals intuited goods or obligations, in knowledge intuited essences or immediately apprehended reality, have been contrasted with the technique of demonstration, of proof, of dialectic. The immediate has always been a problem to analysis, for by its very nature and by definition it defies analysis and eludes definition. If there is immediate experience, it can not be translated into the discursiveness of discourse or the periphrasis of exposition or proof. In the experience of the arts we have clearly the experience of the immediate. However complex the structure or the meaning of a symphony, a painting, a novel, or a poem, as experienced it is immediate. Whatever training goes to its apprehension, whatever elements of discrimination are made, esthetic experience is *ultimately* immediate. It must be directly felt and directly perceived. A great deal of esthetic analysis is an attempt to define the elements, physical, physiological, social, and psychological, which enter as what Professor Pepper calls "the strands in the texture" of the esthetic experience. But there is, understandably, considerable agreement among those who differently explain the esthetic experience, that it is marked by immediacy.

Others than estheticians have, as pointed out above, been concerned and impressed with the fact of immediacy. At the beginning and the end of the process of knowledge, from sensation to beatitude, certain essences are held to be immediate. Even in the most rationalistic theory of intelligence, there is an element of immediacy. For Plotinus, intelligibles are immediately beheld by intelligence, the logos beholds the logoi. Finally, in religious speculations, the mystics have concentrated on the fact that in its simplicities and its ultimates all experience precedes and outruns analysis.

The arts seem to offer key instances of immediacy. Even in those arts filled with discursiveness, as in literature, whatever is understood is fused with the mode of its communication. The most complex theology, as in Dante, becomes merged with the poetic expression of it. One may say that to be experienced at all esthetically, the ultimate *must* become immediate. But the immediate is the function of complex structures and complex psychological and social interactions. The relation of the analyzed to the immediate

is suggested for all experience by the relation of analysis to immediacy in the fine arts. Whatever is relevant to illumination of the immediate in the arts is similarly relevant to the immediate in other realms of value, that of affection and knowledge as well. The understanding of knowledge may borrow from the way in which analysis sharpens and focuses discrimination, the way in which elements and structure function as a single quality directly felt. Again, form and matter are traditional distinctions in the arts as well. But if one begins with the arts themselves and does not force conventional distinctions of form and matter upon them, the distinction between form and matter becomes vitalized by the experience of form and matter in the arts. In the arts, the form is always the form of something, the matter is always formed. Whatever meaning is expressed by a work is expressed by a form which is never quite separable from the meaning. Forms can, by a process of abstraction, be separated from matter and meaning, or hypostatized into Platonic ideas. But forms in actual works of art are functions of a total organization of matter and meaning, organized and perceived and felt as one. The relation of form and matter in the arts can be used as an instrument for understanding the relation of form and matter in life and in the universe. It may indeed be suggested that the notion of a whole systematically organized universe, all perfectly realized form, is borrowed from the experience we have in art. The conception of a universe is the extension of the experience of a work of art and not only the concept of a universe, but the conception, too, of perfect felicity or of perfection itself. For nowhere in social organization, nowhere in life, is there the interpenetration of means and ends, of form, matter, and meaning such as is experienced both as immediate and ultimate in the arts. What is there experienced is at once a hint of what possible perfections are, and a clue to what is sought for or understood by perfection in metaphysics and morals.

Finally, the notion of meaning and the question of reality and truth, large as those issues are, can, I think, be aided by examination of the arts. The arts obviously suggest areas of meaning, of significance, that are not susceptible of analysis into terms and propositions. The internal coherence, the inherent structure of a work of art, themselves communicate a sense of significance, not of something significant beyond the work of art, necessarily, but of something internally significant in it. The work adds up, makes sense, is a system of musical or pictorial order. In the second place, there is something communicated, though in a different way from

what is communicated by propositions. In the familiar distinction: there is acquaintance with, rather than knowledge about. Qualitative uniquenesses and abstract and recurrent types of experience, all these are meanings communicated by art. The tragic character of Beatrice is shown, not proved, a tragedy; the uniquenesses are given in an image, not argued in a syllogism. And there is at least a third sense of meaning, the sense in which things, persons, events, and objects are rendered emotionally important, intensely valued, in a work of art. There are all sorts of explanations of why this is so, but the sense in which uniqueness and typicalness and importance are communicated by works of art suggests at least a clue to meaning in both logic and being. They suggest that the arts are means for the communications of value, of uniqueness, of quality, of types which propositions can not express. Meaning, or some special form of meaning, must be extended from propositions to forms other than propositions, and the nature of meaning itself possibly requires restatement in the light of such significance as is found and felt in esthetic experience, and such experience as that of love or worship where uniqueness, eternal type, and indubitable significance are encountered and realized.

There are those who allege that there is not only meaning but truth found in works of art, and the literature of criticism is filled with terms such as "poetic" and "dramatic" and "moral" truth, by which terms is always implied a contrast with literal or scientific or propositional truth.

For myself, I think there is only confusion to be found in using the same term for truth experimentally and demonstrably verifiable and the sense of urgent and persuasive meaning and value in the arts. The poets and the prophets use images suggestive poignantly of things and ideas deeply cherishable not least because of the mode of their expression. But whether truth is a characteristic of works of art or not, the fact is that works of art do convey meanings so effectively that they are held to reveal truth. Such effects raise the whole question of the relation of image to literal statement, of myth to truth. The name "truth" perhaps should be rescued for propositions, but we need perhaps a new term, "authenticity" or "revelation," to identify that felt ultimacy, that irrefutable quality which is experienced in art, in love, and in religion. The arts suggest at least that something supplementary to scientific truth is present in the arts, something that requires another and less literal name.

IRWIN EDMAN

BOOK NOTES

Philosophy and the Social Order: An Introductory Approach.
GEORGE R. GEIGER. Boston: Houghton Mifflin Company. 1947.
416 pp. \$3.25.

No reader of Professor Geiger's provocative introductory text can complain that he or she was not warned concerning its biases and major assumptions. The first words of the preface proclaim that "this book does not represent an objective approach to philosophy. It expresses a point of view, and attempts to handle a number of philosophical problems from that point of view. The orientation will be distinctly that of instrumentalism and humanism; there is probably nothing in the general argument that will diverge very much from the teaching of John Dewey." Stated another way, the author assumes "the acceptance (a) of the competence of human intelligence, and (b) of the sufficiency of naturalistic explanation." Of course the words "competent" and "sufficient" are used relatively, and not absolutely. The claim is merely that "no other way is open save that of critical and intelligent inquiry. . . . Man will meet his difficulties through his intelligence, or he will run away from them" (pp. 7-8).

The book is divided into two parts: the first 150 pages consist of an unconventionally conventional introduction to philosophy in Deweyan terms, while the remaining 250 pages present "something of a special plea" for a Geigerian social order, somewhat to the left of the New Deal. It is evident that the second part, which voices an ardent plea for the application of "scientific humanism" to social difficulties, is the author's main concern. What he seems to have written is an introduction to social philosophizing about contemporary issues by way of an instrumentalist version of traditional philosophy; "nevertheless," he insists, "it is philosophy rather than social problems to which the student is being introduced . . . the classical questions and answers of philosophy still seem to provide the correct etiquette of introduction" (p. 9). The beginning student is therefore obliged to undergo a rather half-hearted series of lessons in philosophical good manners before getting down to the wholehearted business of social reflection. He is told about metaphysics, and that positivists find it "non-sense"; he is introduced to epistemology, only to discover that the author, with Dewey, prefers a "non-epistemological approach to knowledge." He may therefore be pardoned for wondering whether this traditional material in the first part is truly essential to an understanding of the issues discussed in the second? In other

words, Part I may be found too conventionally philosophical by the student whose primary interest is in social problems, and too superficial by the student who is seeking an introduction to philosophy as such. For it seems to prove that it is quite unnecessary, and may even be harmful, to probe very far into the depths of metaphysics and epistemology in order to accomplish the main purpose of philosophy, that is, social reconstruction.

The last chapter of Part I, which elaborates once more the famous five steps set forth by Dewey in *How We Think*, and the first three chapters in Part II, on "Scientific Method and Values," "Toward an Objective Ethics," and "Values and the Social Sciences," form a more explicitly instrumentalist introduction to what is to follow. The author defines human values as "man's long-time preferences, preferences in the general area encompassing his basic attitudes of life, his deep-rooted tastes and interests, his objects of respect and reverence" (p. 167); and maintains stoutly that values in that sense may be "verified" in varying degrees. His principal example: "Men ought to be healthy" is interpreted to mean "if men achieve the condition of health, then they will be able to perform certain activities with efficiency, assurance, zest, energy, and cheerfulness" (p. 179). "That men ought to be free from fear is a statement which has psychological and sociological implications susceptible to as rigorous demonstration as hosts of factual commonplaces" (p. 181). Many would question whether such interpretations do full justice to what most men have meant by "ought"; but the crux of this view, as the author recognizes, is the actual devising of "procedures and predictions." He concedes that "the operational aspect of scientific thinking has as yet little to show in this area of value . . . particularly lacking are the operations, such as those in the physical or life sciences, which tie together entire fields of activity" (pp. 180, 189). Surely the beginning student needs more examples of the concrete ways in which specific "oughts" may be established.

Professor Geiger attacks ethics for being insufficiently scientific and social science for standing aloof from ethics. Yet he recognizes many of the dangers of merging the neighboring disciplines. "The general content of happiness," he argues, "is supplied by the mores of a given place and time: happiness becomes a function of a culture." Thus "the standard for human value must somehow be located intramurally within a going technology, within a set of functional social institutions." Such a qualified cultural determinism emphasizes tradition, and makes it difficult to justify the rebel against a going culture or technology. But

the author reaffirms the Deweyan fusion of instruments and goals: "The test of human value is the degree to which it manifests and preserves free intelligent inquiry." Nevertheless, "concentration on methods can be and has been overdone . . .," but "it is a risk that must be taken if for no other reason than that such concentration constitutes a powerful prophylactic against the obstinate concern with human values that are unapproachably aloof" (pp. 239, 245-246, 248).

"Too frequently discussions of democracy have the sound of an apologetic when they should ring with belligerency," writes Professor Geiger in Chapter 9, and proceeds for the remaining three chapters to follow his own advice. It would be hard to find a better summary in outline of the case for New Deal liberalism, beginning with "the Laski of 1925-31" plus the reports of the National Resources Planning Board and the Brookings Institution, the whole comprising "a skeleton economic constitution for a democratic political system" of reciprocal duties and rights. The liberal-democratic philosophy "must still proclaim one great area of laissez-faire, that of civil liberties." Yet that "must" has "nothing absolutistic" about it. The case for a moderate amount of planning is argued as if it really needed to be. The sum total is a democratic socialism or collectivism with important qualifications intended to preserve non-monopolistic private enterprise and "the functional representation of all economic groups" (pp. 261, 275-276, 278, 285, 288, 343).

The concluding chapters on "Philosophy and Education" and "Scientific Humanism" exemplify the maxim that the best defense is a good offense, in that they endeavor to rebut the reproaches recently leveled against pragmatic naturalism by turning them against "the Hutchins-Adler axis" in education and the Neibuhrs and Maritains in the field of religion. The author pleads for "a recovery of nerve" by a revival of "man's faith in man" without absolutism or over-optimism or any expectation of achieving "a classic and convenient world" in this or any other generation. Students will certainly be led by this book to see some connection between philosophy and the social order, although it will be generalized scientific method rather than traditional philosophy with which they will become most acquainted. Teachers of elementary courses who like to argue with a textbook as well as to expound it will find plenty of opportunities in *Philosophy and the Social Order*. Its author is unusually generous and good-natured in his treatment of controversial matters, and his zeal for scientific humanism is likely to prove infectious.

Language and Religion in the Light of the Analysis of Signs.
MERLE W. BOYER. Chicago. 1946. 20 pp.

This short monograph is a selection from a doctoral dissertation submitted to the Divinity School of the University of Chicago in 1940. The author writes under the influence of Henry Wieman ("value-structures of the universe") and mainly that of Charles W. Morris (the semiotics of discourse about values). The result is a suggestive blend of ideas about religion and religious utterance.

The latter, or "religious discourse," has two basic aspects, (a) its functioning directly in "religious living" or experience, and (b) its use as an instrument to investigate such functioning. In each of these it has three "dimensions": (i) the statemental or cognitive, (ii) the esthetic, and (iii) the technological. In (a), the cognitive use of language results in myth and allegory, which are the religious ways of asserting value-facts; the esthetic use is worshipful and devotional utterance, while the technological is the homiletic or hortatory speech as in sermons, aimed at the production of value-realizing actions. In (b), the corresponding divisions are (i) theology (cognitively significant discourse about myth), (ii) liturgics, and (iii) homiletics.

The author claims, with justification, that such a scheme is a powerful solvent of religious controversy and disagreement. This abstract and terminological formulation of the typical problems would have been more helpful, however, had it shown in detail the snarl of conflict of religious ideas and attitudes in a few actual concrete cases, and how to unravel it. Moreover, this would have made much more pointed the different functions or "senses" in which one is to take religious utterance, if he is to understand it for all it is worth.

V. C. A.

A Study of the Structure of Meaning in the Sentences of the Satiric Verse Characters of John Dryden. SISTER MARY CHRYSANTHA HOEFLING. Washington, D. C.: Catholic University of America Press. 1946. ix + 133 pp.

This well-written doctoral dissertation is a semiotic analysis of the "meaning" of Dryden's *Characters*. The author's aim is an appraisal of these verses in the light of a trichotomy: "cognitive," "volitive," and "affective" sense; or, in general, of the categories of "predicative" (cognitive) and "non-predicative" (affective and volitive) sentence-structures. Sister Hoefling is concerned to show that though cognitive significance does indeed dominate in

Dryden's verse, a penetrating analysis reveals much "composite" meaning (a fusion of the cognitive and non-cognitive), with a deft artistry that subtly condenses and *distorts* what would otherwise be the too direct "senses" of his expressions. In this respect, his poetry is comparable to the more recent brand, and T. S. Eliot is wrong in supposing that such poetry as the *Characters* "restored English verse to the condition of speech."

The thesis is supported by tables of the result of an extensive statistical count of the kinds of sentences ("meaning-structures") in the *Characters*. These, and the way the author uses the general semiotic scheme, show that she tends too much to treat the "sense" of sentences from the point of view of grammatical form and even punctuation, thus neglecting the fact that words taken singly have logical and non-logical force, and that the grammatical syntax of a compound expression frequently belies or camouflages its main import.

V. C. A.

St. Thomas and Epistemology. LOUIS-MARIE REGIS. (The Aquinas Lecture, 1946.) Milwaukee: Marquette University Press. 1946. 96 pp. \$1.50.

In this engaging little lecture, Fr. Regis adopts the rhetorical device of imagining a polite philosophical encounter between Descartes, Kant, the Neo-Thomists, and St. Thomas Aquinas, turning on the question of the capacity of Thomist metaphysics to withstand the Cartesian and Kantian epistemological critiques. Descartes states his case against scholastic metaphysics, in four and one half pages, while Kant runs through his critique of knowledge in six and one half pages. With similar brevity, the Neo-Thomists concede the validity of the critical method, and claim that it can be used successfully to establish Thomism on a sound basis. The last word, running to some twenty-five pages, is given to St. Thomas, who deplores the efforts of his modern disciples to supply him with an idealist epistemology, and pleads the case for his own authentic doctrine—as Fr. Regis understands it.

It is obvious that a ninety-six page statement and solution of the epistemological problem involves a degree of generalization and simplification that waters it down to a matter of choice of terms in which it might be treated, leaving the problem itself intact. Thus Fr. Regis formulates the problem as that of exhibiting the principle of unity underlying the multiplicity of "knowledges," and he offers as solution of this problem the statement that all human knowledge involves intelligence as material cause, Being as formal

cause, Man as efficient cause, and God (or participation in His infinite perfection) as final cause. The shades of Descartes and Kant, at this point, have apparently been resolved into thin air, no more being heard from them. Thirty-six pages of notes serve to fill the void left by their dissolution.

E. A. M.

L'uomo e Dio. Appunti di critica. ANGELO QUARTO DI PALO. Napoli: Alfredo Rodinella. 1947. 137 pp. L. 200.

The purpose of this volume is to draw the religious implications of a certain hypothesis named "*l'ipotesi dei complessi*," which the author has been working out ever since the publication of his "Critical Notes" on *Materia* in 1928. The pity of the present book on *Man and God* is that its obscurity in human language will counteract any profundity it may contain about the divine.

The author's "mass hypothesis" states, in brief, that everything in creation is composed of "aggregates of factors" of "matter or energy" passing through "three stages": "origin, development, end." Each particular mass in time and space, material or spiritual, comes, grows, and goes, but the march of its constitutive factors endures forever. The "triadic essence" of the whole creation is likened to the dialectic of the Neo-Platonist Scotus, whose theory of "becoming" comes "to reconcile" the "ascending process" of Parmenides, the "linear process" of Hegel, and the "descending process" of Professor Carmelo Ottaviano, by conceiving being and non-being "contemporaneously" (p. 55). Unfortunately, these varieties of dialectical procession are presented without expansion, but the historical reference suggests a clue to the mystery of the "mass hypothesis." Like John Scotus Eriugena, who attempted to rationalize Christian dogma in terms of medieval logic, he seems to be trying the same thing in terms of modern science.

The "mass hypothesis" is applied to the problems of religion, among which those of immortality and God are given special attention. As to the first, the author deduces that the prospect for human immortality lies in the "indestructible and perennial character of the factors" (p. 14) that constitute man, such as his soul, thought, and feeling. Funerals, to be sure, are facts, but they record the death of single men, not of humanity. As to the second issue, the author needs no proof of God's existence because he goes the way of all pantheism and actually spells out the equation: "God = Being" (p. 29).

P. R.

Introducción a Bergson. JOSÉ FERRATER MORA. Buenos Aires: Editorial Sudamericana. 1946. 60 pp.

This short *Introduction to Bergson* is a private edition of the Preface to the Spanish translation by Miguel González Fernández of *Les deux sources de la morale et de la religion*. The author, a Spanish refugee in Latin America, is perhaps best known for his *Diccionario de Filosofía* which was reviewed in this JOURNAL some time ago (Vol. XLII, 1945, pp. 531-532).

Sr. Ferrater critically discusses the Bergsonian philosophy in the light of the history of Western philosophy and concludes that the Franco-Jewish philosopher pushes the Heraclitean flux to its ultimate consequences with his doctrine of *durée réelle*. The Bergsonian extreme is called all kinds of names, old and new, but the one that the author sticks to more than any other is the "ism" he associates with William James, "radical empiricism." Bergson, in short, represents the anti-Parmenides or the anti-Leibniz *par excellence* in the whole history of Western thought, in that he substitutes the principle of "sufficient fact" for the one of "sufficient reason" (p. 58).

Using the grand old principle of polarity, Sr. Ferrater argues that Bergsonism has the defects of its qualities, in so far as it puts a "radical accent on one of the two poles between which philosophical thought moves" (p. 59). However valid such objection may be on purely logical grounds, the irony of it all is that the argument could well be irrelevant to Bergson himself, who is defending "the two sources of morality and religion," not just one, in the very book for whose Spanish edition the Preface under consideration was written. A thinker with "two sources" in Bergson's sense could hardly be an extremist in philosophy, granting that he might be so in temperament. Even Ferrater, as a matter of fact, concedes that Bergson, due to his "extreme fidelity to things," admits "at times" the "other pole" of rationalism (p. 59).

P. R.

En torno a la teodicea. Notas históricas. ROGER P. LABROUSSE. (Cuadernos de Filosofía, 4.) Tucumán: Universidad Nacional de Tucumán, Facultad de Filosofía y Letras. 1945. 98 pp. \$2.50 m./arg.

According to the author's Introduction, the natural rights doctrine "rests on a theodicy, even though the latter may not always be made explicit" (p. 8). Thus, given the logical priority of the "*problema de la teodicea*" to that of natural rights, M. Labrousse

considers the above monograph as "the first part" of a study he has prepared on the "sources of natural rights" in Rousseau.

The first two chapters give an excellent survey of Descartes' theology. In spite of the fact that the philosophy of Descartes is usually interpreted as a "pure rationalism," such is not the case as far as his theodicy is concerned. If one consults his *Letters and Replies to Objections*, he will discover that the "Cartesian God in itself is not rational" (p. 11). The followers of Descartes "were perfectly aware" of his "voluntarist" conception of God and M. Labrousse takes two formidable critics of that conception, Malebranche and Leibniz, to prove his point.

The fundamental thesis of the author is that the "rationalist theodicy" culminating in these two thinkers of the seventeenth century, which is compared with the moderate "Thomistic rationalism" of the thirteenth century, "contributed strongly to the formation of the new spirit" (p. 98) of the Enlightenment. M. Labrousse is an historian of ideas and he sees not only the difference between the "theocentric" and the "anthropocentric" character of the bourgeois mind of the seventeenth and eighteenth centuries respectively, but their similarity as well in their common appeal to reason. His approach is a good corrective for those who are tempted to make unwarranted "jumps" in history.

P. R.

Escritos filosóficos. RODOLFO RIVAROLA. Edición y palabras preliminares de Luis Juan Guerrero. (Publicaciones de Filosofía Argentina, Tomo V.) Buenos Aires: Instituto de Filosofía, Facultad de Filosofía y Letras, Universidad de Buenos Aires. 1945. xvi + 279 pp. \$10 m/arg.

Professor Luis Juan Guerrero, Director of the Instituto de Filosofía, has edited the above volume in honor of the late Rodolfo Rivarola, who in 1896 was appointed the first professor of philosophy at the University of Buenos Aires. The editor readily admits in his preliminary remarks that "Rivarola was not, strictly speaking, a philosopher" (p. ix), that is, he was not an "original" thinker. Nevertheless, the importance of these *Philosophical Writings* culled from the pen of the Argentine *jurista*, most of which are essays dealing with moral and social issues, lies in that they reveal how Rivarola was trying to combat the prevalent positivism of his "generation of the 'eighties" with the weapons of "Kantian criticism." If this memorial volume does nothing else, it should at least serve to remind us that traditional positivism in Argentina did not rule unchallenged in its heyday, however weak the protest.

P. R.

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THE JOURNAL OF PHILOSOPHY

CONCERNING A VOCABULARY FOR INQUIRY INTO
KNOWLEDGE

UNDERTAKING (45.5)¹ to find a few firm names for use in connection with the theory of knowledge—hoping thereby to promote cooperation among inquirers and lessen their frequent misinterpretations of one another—we at once found it essential to safeguard ourselves by presenting in explicit postulation the main characteristics of our procedure (46.615).

The first aspect of this postulatory procedure to stress is that the firm namings sought are of that type of firmness attained by modern science when it aims at ever-increasing accuracy of specification rather than at exactness (q.v.) of formulation, rejecting thus the old verbal rigidities, and leaving the paths of inquiry freely open to progress.

An observation which, we believe, any one can make when the actual procedures of knowledge theorists are examined is that these procedures deal with knowings in terms of knowns, and with knowns in terms of knowings, and with neither to itself alone. The epistemologist often comments casually on this fact, and sometimes discusses it at length, but rarely makes any effort deliberately to act upon it. No attempt at all, so far as we are aware, has been made to concentrate upon it as a dependable base for operations. We accept this observation and report as sound, and we postulate accordingly.

Such a postulation, wherever the inquiry is not limited to some particular activity of the passing moment but is viewed broadly in its full scope, will at once bring into the knowing and the known as joint subject-matter all of their positings of "existence," inclusive of whatever under contrasting manners of approach might

¹ We shall refer to preceding papers in this JOURNAL by use of the figure 45 for Vol. XLII (1945), and by the figures 46 and 47 for the two succeeding volumes, in each case following the year number by the page number after a decimal point. The papers have appeared in Volume XLII (1945), pp. 5, 39, 225, and 645; Volume XLIII (1946), pp. 505, 533, and 615; Volume XLIV (1947), p. 281. See also "Logicisms' Underlying Postulations" in *Philosophy of Science*, Vol. 12 (1945), p. 3, and "The New 'Henotie'" to appear in the September, 1947, issue of *Philosophy and Phenomenological Research*.

be presumed to be "reality" of action or of "being" underlying them. Taking this subject-matter of inquiry as one single system, the factual support for any theory of knowings is then found to lie within the spatial and temporal operations and conclusions of accredited science. The alternative to this—and the sole alternative—is to make the decision as to what is and what is not knowledge rest on evidence taken as available independent of and prior to these scientific subject-matters, but such a course is not for us.

Under this postulation we limit our immediate inquiry to knowings through namings, with the further postulation that the namings (as active behaviors of men) are themselves before us as the very knowings under examination. If the namings alone are *flatus vocis*, the named alone and apart from naming is *ens fatuum*.

The vague word "knowledge" (q.v.) in its scattered uses covers in an unorganized way much territory besides that of naming-knowing.² Especially to remark are the regions of perception-manipulation on the one hand, and the regions of mathematically symbolic knowledge on the other. These remain as recognized fields of specialized inquiry for the theory of knowledge. Whether or not the word "knowledge" is to be retained for all of these fields as well as for namings-knowings is not a question of much importance at the present imperfect stage of observation and report.

Some of the words here appraised may be taken as key-names for the postulation employed, and hence as touchstones for the other names. *Fact* is thus used for knowings-knowns in system in that particular range of knowings-knowns, namely, the namings-nameds, which is studied. *Designation* is used as a most general name for the naming phases of the process, and *Existence* as a most general name for the named phases. Attention is called to the distinction between *inter* and *trans* (the former the verbal locus of much serious contemporary confusion), and to the increasingly firm employment of the words "aspect" and "phase" within the transactional framework of inspection.

Certain changes are made from our earlier recommendations.³

² How much territory the word "knowledge" is made to cover may be seen from what is reported of it in Runes's *The Dictionary of Philosophy* (1942). Knowledge appears as: "Relations known. Apprehended truth. Opposite of opinion. Certain knowledge is more than opinion, less than truth. Theory of knowledge, or epistemology (which see), is the systematic investigation and exposition of the principles of the possibility of knowledge. In epistemology, the relation between object and subject."

³ Compare especially the tentative list of words suggested at the close of our paper "A Terminology for Knowings and Knowns," Vol. XLIII (1945), pp. 225-247.

"Existence" replaces "event," since we have come to hope that it may now be safely used. "Event," then, replaces "occurrence." "Definition" has been demoted from its more general assignment, since continued studies of its uses in the present literature show it so confused as to rate no higher than a crude characterization (47.281). "Symbolization" has been given the duty of covering the territory which, it was earlier hoped, "definition" could cover. "Exact" for symbolization has been substituted for "precise," in correlation with "accurate" for specification. The names "behavior-object" and "behavior-agent" have been dropped, as not needed at the present stage of inquiry, where object and organism suffice.

The reader will understand that what is sought here is clarification rather than insistent recommendation of particular names; that even the most essential postulatory namings serve the purpose of "openers," rather than of "determiners"; and that if the distinctions herein made prove to be sound, then the names best to be used to mark them may be expected to adjust themselves in the course of time under attrition of the older verbal abuses.

ACCURATE. When specification is held separate from symbolization (q.v.), then separate adjectives to characterize degrees of achievement in the separate processes are desirable. Accurate is recommended in the case of specification. See *Exact*.

ACTION, ACTIVITY. These words are used by us in characterizations of durational-extensional subject-matters only. Where a stressed substantive use of them is made, careful specification should be given; otherwise they retain and promote vagueness.

ACTOR. A confused and confusing word; should never be used without the most careful specification under explicit postulation.

APPLICATION. The application of a name to an object may often be spoken of advantageously where other phrasings mislead. See *Reference*.

ASPECT. The components of a full transactional situation, being not independents, are aspects. The word is etymologically correct; the verb "aspect" is "to look out." See *Phase*.

BEHAVIOR. A behavior is always to be taken transactionally: i.e., never as *of* the organism alone any more than *of* the environment alone, but always as *of* the organic-environmental situation, with organisms and environmental objects taken as equally its aspects. Studies of these aspects in provisional separation are essential at many stages of inquiry, and are always legitimate when carried on under the transactional framework, and through an inquiry which is itself recognized as transactional.

BEHAVIORAL. Behavioral inquiry is that in which the processes examined are not currently explorable by physiological (q.v.) techniques. To be understood in freedom equally from behavioristic and from mentalistic allusions. Covers equally the ranges called "social" and those called "individual."

BIOLOGICAL. Inquiry in which organic life is the subject-matter, and in which the processes examined are not currently explorable by physical (q.v.) techniques.

CHARACTERIZATION. The intermediate stage of designation in the evolutionary scale, with cue (q.v.) preceding, and specification (q.v.) following (46.657); includes the greater part of the everyday use of words; reasonably adequate for the commoner practical purposes.

CIRCULARITY. Regarded as a radical defect by non-transactional procedures which undertake to organize "independents" as "reals." Normal for inquiry into knowings and knowns in system (45.238).

CONNECTION To apply between objects under naming. See *Reference and Relation*.

COHERENCE. Suggests itself for connection (q.v.) as established under specification, in distinction from consistency attained in symbolic process

CONCEPT, CONCEPTION. Conception has two opposed uses: on one side as a "mentalistic entity"; on the other as a current phrasing for subject-matters designed to be held under steady inspection in inquiry. Only the latter is legitimate under our form of postulation. In any event the hypostatization set up by the word "concept" is to be avoided; and this applies to its appearance in formal logic even more than anywhere else.

CONSCIOUSNESS. The word has disappeared from nearly all research, but survives under various disguises in knowledge theory. Where substantively used as something other than a synonym of a comparable word, "awareness," we can find under our postulation no value whatever in it, or in its disguises, or in the attitudes of inquiry it implies.

CONSISTENCY. To be used exclusively in symbolic ranges. See *Coherence*.

CONTEXT. A common word in recent decades carrying many suggestions of transactional treatment. However, where it obscures the issues of naming and the named, i.e., when it swings obscurely between verbal and physical environments, it is more apt to do harm than good.

COSMOS. Commonly presents "universe as system." If the speaking-knowing organism is included in the cosmos, and if in-

quiry proceeds on that basis, cosmos appears as an alternative name for fact (q.v.).

CUE. The earliest stage of designation in the evolutionary scale (46.655). Some recent psychological construction employs cue where the present study employs signal (46.657). Firm expression is needed in some agreed form. If a settled psychologist's use develops, then it, undoubtedly, should govern.

DEFINITION. Most commonly employed for specification (q.v.), though with varied accompanying suggestions of dictionary, syllogistic, or mathematical adaptation. These latter, taken in a group, provide a startling exhibit of epistemological chaos (47.281). In recent years a specialized technical application has been under development for the word in formal logic. Establishment in this last use seems desirable, but the confusion is now so great that it is here deemed essential to deprive the word of all terminological status above that of a characterization (q.v.) until a sufficiently large number of experts in the fields of its technical employment can establish and maintain a specific use.

DESIGNATION. The knowing-naming phase of fact (45.237; 46.653). To be viewed always transactionally as behavior. The word "name" (as a naming) (q.v.) may advantageously be substituted wherever one can safely expect to hold it to behavioral understanding. Extends over three levels: cue, characterization, and specification.

DESCRIPTION. Developed characterization building towards specification (46.659); accordingly, not to be unduly narrowed as is done when it is brought too sharply into contrast with narration as temporal.

ENTITY. Assumed or implied physical, mental, or logical independence or semi-independence (the "semi" always vague or evasive) in some part of a subject-matter under inquiry; thus, a tricky word, even when not positively harmful, which should be rejected in all serious inquiry. See *Thing* which, in its idiomatic use, is free from the misleading pretentiousness of entity.

ENVIRONMENT. Situations, events, or objects in connection (q.v.) with organism as object. Subject to inquiry physically, physiologically, and, in full transactional treatment, behaviorally.

EPISTEMOLOGICAL. As far as this word directly or indirectly assumes separate knowers and knowns (inclusive of to-be-knowns) all epistemological words are ruled out under transactional procedure.

EVENT. That range of differentiation of the named which is better specified than situation, but less well specified than object. Most commonly employed with respect to durational transition.

(In earlier sketches employed (as 45.245) where we now employ existence.)

EXACT. The requirement for symbolic procedure as distinguished from the requirement of accuracy (q.v.) for specification.

EXCITATION A word suggested for specific use where *physiological* process of environment and organism is concerned and where distinction from stimulus in its own specific uses (q.v.) is required.

EXISTENCE. The known-named phase of fact, transactionally inspected. Established through designation under an ever-increasing requirement of accuracy in specification. Not permitted entry as if at the same time both a "something known" and a "something else" underlying the known. Physical, physiological, and behavioral subject-matters are here taken as equally existential, however different the technical levels of their treatment in inquiry at a given time may be. Both etymologically and in practical daily uses this application of the word is far better justified than is an extra-behavioral or absolutist rendering (whether physicalist or mentalist) under some form of speculative linguistic manipulation.

EXPERIENCE. This word has two radically opposed uses in current discussion. These overlap and shift so as to cause continual confusion and unintentional misrepresentation. One stands for short extensive-durational process, an extreme form of which is identification of an isolated sensory event or "sensation" as an ultimate unit of inquiry. The other covers the entire spatially extensive, temporally durational application; and here it is a counterpart for the word "cosmos." The word "experience" should be dropped entirely from discussion unless held strictly to a single definite use: that, namely, of calling attention to the fact that *existence* has organism and environment as its aspects, and can not be identified with either as an independent isolate.

FACT. The cosmos in course of being known through naming by organisms, themselves among its phases. It is knowings-knowns, durationally and extensionally spread; not what is known to and named by any one organism in any passing moment, nor to any one organism in its lifetime. Fact is under way among organisms advancing in a cosmos, itself under advance as known. The word "fact," etymologically from *factum*, something done, with its temporal implications, is much better fitted for the broad use here suggested than for either of its extreme and less common, though more pretentious applications: on the one hand for an independent "real"; on the other for a "mentally" endorsed report.

FIELD. On physical analogies this word should have important application in behavioral inquiry. The physicist's uses, however, are still undergoing reconstructions, and the definite correspondence

needed for behavioral application can not be established. Too many current projects for the use of the word have been parasitic. Thorough transactional studies of behaviors on their own account are needed to establish behavioral field in its own right.

FIRM. As applied to a proposed terminology for knowings and knowns this word indicates the need of accuracy (q.v.) of specification, never that of exactness of symbolization. For the most firm, one is to take that which is least vague, and which at the same time is most free from assumed finality—where professed finality itself, perhaps, is the last word in vagueness.

IDEA, IDEAL. Underlying differences of employment are so many and wide that, where these words are used, it should be made clear whether they are used behaviorally or as names of presumed existences taken to be strictly mental.

INDIVIDUAL. Abandonment of this word and of all substitutes for it seems essential wherever a positive *general theory* is undertaken or planned. Minor specialized studies in terms of the individual should expressly name the limits of the application of the word, and beyond that should hold themselves firmly within such limits. The word "behavior" (q.v.) as presented in this vocabulary covers both individual and social (q.v.) on a transactional basis in which the distinction between them is aspektual.

INQUIRY. A strictly transactional name. It is an equivalent of knowing, but preferable as a name because of its freedom from "mentalistic" associations.

INTER. This prefix has two sets of applications (see Oxford Dictionary). One is for "between," "in-between," or "between the parts of." The other is for "mutually," "reciprocally." The result of this shifting use as it enters philosophy, logic, and psychology, no matter how inadvertent, is ambiguity and undependability. The habit easily establishes itself of mingling without clarification the two sets of implications. It is here proposed to eliminate ambiguity by confining the prefix *inter* to cases in which "in between" is dominant, and to employ the prefix *trans* where the mutual and reciprocal are intended.

INTERACTION. This word, because of its prefix, is undoubtedly the source of much of the more serious difficulty in discussion at the present time. Legitimate and illegitimate uses in various branches of inquiry have been discussed in preceding papers (46.505; 46.533). When transactional and interactional treatments come to be explicitly distinguished,⁴ progress in construction should be more easily made. For the general theory of knowings

⁴Transactions: doings, proceedings, dealings. Interaction: reciprocal action or influence of persons or things on each other (Oxford Dictionary).

and knowns, the interactional approach is entirely rejected under our procedure.

KNOWLEDGE. In current employment this word is too wide and vague to be a *name* of anything in particular. The butterfly "knows" how to mate, presumably without learning; the dog "knows" its master through learning; man "knows" through learning how to do an immense number of things in the way of arts or abilities; he also "knows" physics, and "knows" mathematics; he knows *that* and he knows *what*. It requires only a moderate acquaintance with philosophical literature to observe that the vagueness and ambiguity of the word "knowledge" account for a large number of the traditional "problems" called *the problem of knowledge*. The issues that must be faced before firm use is gained are: Does the word "knowledge" indicate something the organism possesses or produces? Or does it indicate something the organism confronts or with which it comes into contact? Can either of these viewpoints be coherently maintained? If not, what change in preliminary description must be sought?

KNOWINGS. Organic phases of transactionally observed behaviors. Here considered in the familiar central range of namings-knowings. The correlated organic aspects of signalings and symbolings are in need of transactional systematization with respect to naming-knowings.

KNOWNs. Environmental phases of transactionally observed behaviors. In the case of naming-knowings the range of the knowns is that of existence within fact or cosmos, not in a limitation to the recognized affirmations of the moment, but in process of advance in long durations.

LANGUAGE. To be taken as behavior of men (with extensions such as the progress of factual inquiry may show to be advisable into the behaviors of other organisms). Not to be viewed as composed of word-bodies apart from meanings, nor as word-meanings apart from word-embodiment. As behavior, it is a region of knowings. Its terminological status with respect to symbolings or other expressive behaviors of men is open for future determination.

MANIPULATION. See *Perception-manipulation*.

MATTER, MATERIAL. See *Physical* and *Nature*. If the word "mental" is dropped, the word "material" (in the sense of matter as opposed to mind) falls out also.

MATHEMATICS. A behavior developing out of earlier linguistic activities, which, as it advances, more and more gains independence of namings and specializes on symboling. See *Symbol*.

MEANING. A word so confused that it is best never used at all. More direct expressions can always be found. (Try substituting,

for example, "is," or using "involves.") The transactional approach does away with that split between disembodied meanings and meaningless bodies for meanings which still enters flagrantly into much discussion.

MENTAL. This word not used by us. Usually indicates an hypostatization arising from a primitively imperfect view of behavior, and not safe until the splitting of existence into two independent isolates has been generally abandoned. Even in this latter case the word should be limited to service as emphasizing an aspect of existence. See *Behavior* and *Transaction*.

NAME, NAMING, NAMED. Language behavior in its central ranges. Itself a form of knowing. Here temporarily and technically replaced by the word "designation," because of the many traditional, speculatively evolved, applications of the word "name," closely corresponding to the difficulties with the word "concept" (q.v.), many of them still redolent of ancient magic. The word "name" will be preferred to the word "designation," as soon as its use can be considered free from probable hearers' distortions.

NATURE. See *Cosmos* and *Fact*. Here used to represent a single system of subject-matters of inquiry, without implication of predetermined authoritative value such as is usually intended when the word "naturalism" is used.

OBJECT. Within fact, and within its existential phase, object is that which acquires firmest specification, and is thus distinguished from situation and event. This holds to the determination of Dewey (*Logic*, p. 119; also pp. 129, 520, *et al.*) that in inquiry object "emerges as a definite constituent of a resolved situation, and is confirmed in the continuity of inquiry," and is "subject-matter, so far as it has been produced and ordered in settled form."

OBJECTIVE. A crude characterization which seems easily enough intelligible until one observes that in the behavioral sciences almost every investigator calls his own program objective, regardless of its differences from the many self-styled objective offerings that have gone before. As often employed the word has merely the import of impartial, which might advantageously replace it. Objective is used so frequently to characterize aspects of "subject" rather than of "object," that its own status with respect both to subject and to object should be carefully established before use.

OBSERVATION. To be taken as durationally and extensionally transactional, and thus neither separately in terms of the observing, nor separately in terms of the observed. Never to be treated as an act at a spot, nor in any other way as isolated or independent. See *Experience*.

OPERATIONAL. The word "operation" as applied to behavior in recent methodological discussions should be thoroughly overhauled and given the full transactional status that such words as "process" and "activity" (q.v.) require.

ORGANISM. Taken as transactionally existent in cosmos. Presentations of it in detachment or quasi-detachment are to be viewed as tentative or partial.

ORGANIZATION. See *System*.

PERCEPTION-MANIPULATION. Taken jointly and inseparably as the range of signal behaviors. Differences between perception and manipulation seemed striking in the earlier stages of the development of psychology, but today's specialization of inquiry should not lose sight of their common behavioral status.

PHASE. Aspect of fact in sufficiently developed statement to exhibit definite spatial and temporal localizations.

PHENOMENON. A word that still has possibilities of convenient use, if deprived of all of those implications commonly called subjective, and used for provisional identifications of situation with no presumptive "phenomenine" behind it for further reference.

PHYSICAL. One of the three at present outstanding divisions of the subject-matters of inquiry. Identifiable through technical methods of investigation and report, not purported differences in material or other forms of purported substance.

PHYSIOLOGICAL. That portion of biological inquiry which forms the second outstanding division of the subject-matter of all inquiry as at present in process; differentiated from the physical by the techniques of inquiry employed more significantly than by mention of its specialized organic locus. See *Behavioral*.

PRAGMATIC. This word is included here (but no other of its kind except epistemological) solely to permit a warning against its current degradation in making it stand for what is practical to a single organism in limited durational spread—this being a use remote from that of its origin.

PROCESS. To be used aspectually or phasally. See *Activity*.

PROPOSITION. Closely allied to proposal both etymologically and in practical daily use. Widely divorced from this, and greatly confused in its current appearances in the logics.⁵ Many efforts in the last two decades to distinguish it clearly from assertion, statement, sentence, and other words of this type upon the basis of the older self-oriented logics, have only served to increase the difficulties. Sufficient light is thrown upon its status by its demand, concealed or open, that its component terms be independent fixities

⁵ For some illustrations see Bentley, "Logicians' Underlying Postulations," *Philosophy of Science*, Vol. 13 (1946), pp. 3-19.

while at the same time it hypostatizes itself into an ultimate fixity. Treated in Dewey's *Logic: the Theory of Inquiry* under radically different construction as an intermediate and instrumental stage in inquiry.

REAL. Its use to be completely avoided when not a recognized synonym for genuine as opposed to sham or counterfeit.

REALITY. As commonly used, it may rank as the most metaphysical of all words in the most obnoxious sense of metaphysics, since it is supposed to name something which lies underneath and behind all knowing, and yet, as Reality, something incapable of being known in fact and as fact.

REACTION. To be coupled with excitation in *physiological* reference (q.v.).

REFERENCE. Behavioral application of naming to named. See *Connection and Relation*.

RELATION. Various current uses, ranging from casual to ostentatious; rarely with any sustained effort at localization of the "named," as is shown by ever-recurrent discussions (and, what is worse, evasions) as to whether relation (assumed to have a certain existence somewhere as itself factual) is "internal" or "external." Suggested by us to name system among words, in correlation with reference and connection (q.v.). See Dewey, *Logic: the Theory of Inquiry*, p. 55, for such a presentation.

RESPONSE. To be coupled with stimulus in the signal range of behavior.

SCIENCE, SCIENTIFIC. Our use of this word is to designate the most advanced stage of specification of our times—the "best knowledge" by the tests of employment and indicated growth.

SELF. Open to aspectual examination under transactional construction. Where substantively stressed as itself an object, self should not be permitted also an aura of transactional values, tacitly, and apart from express development.*

SELF-ACTION. Used (46.509) to indicate various primitive treatments of the known, prior in historical development to interactional and transactional treatments. Rarely found today except in philosophical, logical, epistemological, and a few limited psychological regions of inquiry.

SENTENCE. No basic distinction of sentence from word nor of meaning of sentence from verbal embodiment of sentence remains when language is viewed as transactionally behavioral.

SIGN. This name applied transactionally to organic-environ-

* In illustration: Mead's wide-ranging transactional inquiries are still taken by most of his followers in the sense of interesting comments on an object in independence.

mental behavior. To be understood always as sign-process; never with localization of sign either in organism or in environment separately taken. Hence never as if signs were of two kinds: the natural and the artificial. Co-terminous with behavioral process, and thus technically characteristic of all behaviors viewed in their knowing-known aspects. Distinctive as technical mark of separation of behavioral from physiological process, with the disjuncture of research in the present day on this borderline more marked than that on the borderline between physics and physiology, where biophysics is making strong advance. Evolutionary stages and contemporary levels differentiated into signal, name, and symbol.

SIGN-PROCESS. Synonym for *Sign*.

SIGNAL. The perceptive-manipulative level and stage of sign in transactional presentation. Border-regions between signaling and naming still imperfectly explored, and concise characterizations not yet available.

SITUATION. The more general, and less clearly specified, range of the named phase of fact. In our transactional development, the word is not used in the sense of environment; if so used, it should not be allowed to introduce transactional implications tacitly.

SOCIAL. The word in its current uses is defective for all *general* inquiry and theory. See *Individual*.

SPACE-TIME. Space and time alike to be taken transactionally and behaviorally—never as fixed or given frames (formal, absolute, or Newtonian) nor exclusively as physical specializations of the types known since relativity.⁷

SPECIFICATION. The most highly perfected naming behavior. Best exhibited in modern science. Requires freedom from the defectively realistic application of the form of syllogism commonly known as Aristotelian.

STIMULUS. An unclarified word, even for most of its key-word uses in psychology. The possibility of an adequate transactional specification for it will be a critical test of transactional construction.

SUBJECT. This word can profitably be dropped, so long as subjects are presented as in themselves objects. Subject was object in Greece and remains unclarified today. Might be properly used, perhaps, in the sense of "topic" as "subject-matter undergoing inquiry," in differentiation from "object" as "subject-matter determined by inquiry."

⁷ See Bentley, "The Factual Space and Time of Behavior," this JOURNAL, Vol. XXXVIII (1941), pp. 477-485.

SUBJECTIVE. Even less dependable as a word than objective (q.v.).

SUBJECT-MATTER. Whatever is before inquiry where inquiry has the range of namings-named. The main divisions in present-day research are into physical, physiological, and behavioral.

SUBSTANCE. No word of this type has place in the present system of formulation. See *Entity*.

SYMBOL. An advance of sign beyond naming, accompanied by disappearance of specific reference (q.v.) such as naming develops.

SYSTEM. Perhaps a usable word where transactional inquiry is under way. Thus distinguished from organization which would represent interaction. "Full system" has occasionally been used to direct attention to deliberately comprehensive transactional procedure.

TERM. This word has today accurate use as a name only in mathematical formulation where, even permitting it several different applications, no confusion results. The phrase "in terms of" is often convenient and, simply used, is harmless. In the older syllogism term long retained a surface appearance of exactness (q.v.) which it lost when the language-existence issues involved became too prominent. For the most part in current writing it seems to be used loosely for "word carefully employed." It is, however, frequently entangled in the difficulties of concept (45.15; 45.24). Given sufficient agreement among workers, term could perhaps be safely used for the range of specification, and this without complications arising from its mathematical uses.

THING. Most generally used for anything named. This very generality makes it a much safer word to use in epistemological discussion than its more pretentious substitutes. See *Object*, *Entity*, *Substance*.

TIME. See *Space-time*.

TRANS. This prefix has the sense of beyond, but in much recent development it stands for across, from side to side, etc. To be stressed is the radical importance at the present time of a clear differentiation between trans and inter (q.v.).

TRANSACTION. The knowing-known taken as one process in cases in which in older discussions the knowings and knowns are separated and viewed as in interaction. The knowns and the named in their turn taken as phases of a common process in cases in which otherwise they have been viewed as separated components, allotted irregular degrees of independence, and examined in the form of interactions. See *Interaction*.

TRUE, TRUTH. These words lack accuracy in modern professedly technical uses, such that the closer they are examined, it

frequently happens, the more inaccurate they appear. "Warranted assertion" (Dewey) is one form of replacement. Confinement to "semantic" instances is helpful, so far as "semantic" itself gains accuracy of use. A subject-matter now in great need of empirical inquiry, with such inquiry apparently wholly futile under traditional approaches.

WORD. To be used without presumptive separation of its "meaning" as "mental" from its "embodiment" (air-waves, marks on paper, vocal utterances, etc.) as "physical"; in other words, to be taken always as behavioral transaction, and thus as a subject-matter examined whole as it comes, rather than in clumsily fractured bits.

Some of the above words, as we have said, are representatives of our postulation, while others are recommended more generally as aids to clarification. Contrasted with these are other words, shown to be confusedly used, among them some so debased that their ejection from all technical discourse is unqualifiedly urged. Such a variety of treatments is probably the best than can be expected in examining vocabularies as ambiguous as those that have been under attention. We are *seeking* the firm (q v.), not trying to decree it.

Finally with respect to our postulations: first, that knowing-knowns are to be transactionally studied, and secondly, that namings are basic existential knowings, we repeat what has been said often enough before: We are as well aware as any opponent can be that naming-knowings lie within wider fields of behaviors variously—whether analogically or otherwise—styled knowings. The critical issue concerns existence-knowing (fact-knowing) taken as presumptively prior to or apart from naming-knowing. When so taken, what is the organization between, or the system of, the two ranges? Much more of an answer is needed than is given by cue-guidance or loose characterization. Specification becomes essential, and for this, in the complex case, explicit postulation is the need.

JOHN DEWEY,
ARTHUR F. BENTLEY

HUMAN MINDS AND PHYSICAL OBJECTS

THE following inquiry is to a large extent definitions. The reason is that I can not hope to prove anything to another person if I can not first make him know what I am talking about.

Physical objects. No definition of physical object is herein

stated except in so far as the expression "physical object" is restricted in its possible meanings by having to be consistent with this paragraph and with all of this inquiry. All sensations are physical objects; but all physical objects are not the familiar human sensations. A tree, which is a physical object, has spatial attributes; there is no good reason why I should refuse to say that my visual sensation when I look at the tree has spatial attributes. If I suppose that a tree and my visual sensation of the tree are two distinct objects, there seems to be no good reason why the sensation can not be a sort of map of and very much smaller than the tree. Ordinary maps are made so that distances on the ground can be computed approximately from linear measurements on the map; for example, one unit on the map might represent 62,500 units on the ground; I can not measure both a distance on the ground and also my visual sensation of the distance on the ground so that both measurements are expressed in terms of a common unit; however, by comparing our sensations of a distance on the ground with our sensations of a tapeline, we can measure the distance on the ground in terms of a unit on the tapeline; ordinary maps, the ground, and tapelines are physical objects. There is considerable evidence to show that the part of our bodies to which our sensations are connected by the shortest chains of causation is the cerebral cortex. If it be assumed that the most reasonable place in which to locate my sensations is the part of my body to which my sensations are connected by the shortest chains of causation, then all of my succession of sensations is inside of my cerebral cortex. This is possible because my visual sensation of a tree can be assumed to be very much smaller than the tree. Sensations and all other parts of a human mind should be regarded as a part of the human body, which is a physical object. I discovered independently in 1929 the theory of this paragraph; at that time, my knowledge outside the fields of mathematics, statistics, and actuarial science was very small. The hypothesis of this paragraph is herein stated very briefly with very little proof, because I do not wish merely to repeat proofs which other writers have given. For example, my hypothesis is to a large extent the same as the endocephalic hypothesis, which Mr. Williams wrote about in his article entitled "On Having Ideas in the Head."¹ Most of his arguments can be used to prove my hypothesis.

Human minds. The succession of my sensations is a part of my mind. Why is my mind more than these sensations? If I draw a figure which is a good approximation to the ideal right triangle

¹ This JOURNAL, Vol. XXIX (1932), pp. 617-631.

of geometry and if I look at the figure, part of the resulting visual sensation is an approximation to a right triangle; the hypotenuse of the sensation is opposite the right angle of the sensation; in other words, the hypotenuse is related to the right angle; therefore, a relation between two parts of a sensation may be a part of the sensation. However, the causes of my sensations are not my familiar sensations. Parts of memories are sensations, but human memories contain stuff which is not the familiar human sensations. If the sensations of a person have no relations to each other and to other objects except the relations which are made of the sensations of that person, most of the relations which sensations seem to have to each other and to other objects and which seem so valuable do not exist. Part of my definition of a human mind is the following statement: a human mind is part of the human body, but not all of the body is the mind. This statement is too vague to be a complete definition of a human mind, because the statement is very far from showing precisely what part of the body is the mind. The best endeavor to make the statement less vague results in some such list as the following: the parts of a human mind are sensations, perceptions, imaginations, memories, acts of reasoning, acts of consciousness, acts of attention, pains, pleasures, emotions, acts of will, sense organs, the motor nerves which discharge impulses from the brain into the voluntary muscles, and a large part of the brain.

It seems to me that some parts of the human mind have been so well discussed by other people that it is not necessary to discuss these parts. However, some parts have not been well defined and discussed.

Consciousness means literally knowing together. Consciousness in this inquiry is defined as follows: consciousness is the bringing together a part of a mind and another object in such a way that the part of the mind knows the other object. The other object may be another part of the mind, the whole mind, or an object which is entirely outside of the mind, etc. The other object may or may not exist. Consciousness has been defined by stating that it is awareness; this is not a good definition, because it does not define awareness; consciousness is a better word than awareness.

Although I may not be able to remember exactly his words, a Professor of English told me the following: "I attended a lecture given by Royce, and was not able to understand anything he said; I attended a lecture given by James, and a high school boy might have understood James." Although I have been interested at times in the writings of James since 1909, I have never been able to understand what he meant by sensation. James in his *Psy-*

chology: *Briefer Course* wrote that "It is impossible rigorously to define sensation." I doubt that anybody has ever defined sensation with more clearness than James. Some animals which are not human animals probably have minds which contain sensations, which are not human sensations. So far in this inquiry I have used the word "sensation" without showing whether I was talking about human sensations or other sensations. During all of this inquiry, when I use the word "sensation," I mean "human sensation," unless the distinction between human sensations and other sensations is clearly indicated. I do not pretend to know what other people have meant by sensation. It may be that a rigorous definition of the expression "human sensation" would be infinite in length; however, it seems to me that a laborious attempt rigorously to define human sensation is very important. Since I have not the ability to define rigorously sensations which are not human, only a definition of human sensations will be tried in this inquiry.

"Human sensation" is defined by being restricted in its possible meanings by having to be consistent with this paragraph and with all of this inquiry. I hope that the possible meanings of human sensation are restricted to such an extent that human sensation is rigorously defined. So far as I know, nobody has ever meant by the expression "human sensation" what I mean by this expression. My excuse for being odd is that this oddity is likely to make it less difficult rigorously to define human sensation. The following definition is not satisfactory for several reasons: sensation is the consciousness of the qualities of the objects (including the body) stimulating the sense organs. This definition does not make a distinction between human sensations and other sensations. The use of the word "consciousness" in the definition is unsatisfactory, because there have been disputes among philosophers regarding the nature of consciousness, and because a consciousness of a quality of an object is more complicated than what I mean by a sensation. Human sensations are always parts of human acts of consciousness; however, these acts contain metaphysical stuff which is not the familiar human sensations. Just a quality abstracted from the situation consciousness of quality suggests much more precisely what I mean by a sensation; it may be that what I mean by a sensation never exists except as a part of a larger whole; however, abstraction is frequently a very valuable aid to clearness. According to physics and chemistry, the objects which stimulate our sense organs are made of such things as electrons and protons. The physicist and the chemist talk about the whirl of electrons and protons, and they either do not talk or talk very little about the

qualities of physical objects. Why is it that the physicist and the chemist either do not talk or talk very little about the qualities of objects which stimulate our sense organs? Sensations are physical objects; however, there are many physical objects which are not human sensations; since the physicist and the chemist know very little about the qualities of physical objects which are not human sensations, these persons use some human sensations in their scientific observations, and usually believe that it is part of the work of the psychologist to study the qualities of human sensations. The statement that a sensation having a quality is caused to exist in a mind by an object which stimulates one of the sense organs helps to suggest more precisely what I mean by a sensation. What I mean by a sensation is an abstraction to the extent that the sensation does not include in its being the metaphysical stuff which was the cause of the sensation. Frequent use of the word "quality" has been made in this paragraph. This word has more than one specialized meaning. For example, if you are asked about the quality of a proposition in logic, you tell whether the proposition is affirmative or negative; this is one of the specialized meanings which I wish to avoid when defining a sensation. The statement that the quality of an elementary sensation can be used to distinguish the sensation from any other sensation having a different quality but having the same duration, intensity, and extent if there is any extent helps to suggest more precisely the specialized meaning which I want to give to the word "quality" in the expression "quality of sensation." Red, sweet, cold, etc., are examples of qualities of sensations. The qualities of visual sensations are thought by most of mankind to be qualities of external objects. The expression "sensible qualities" is defined to mean the expression "qualities of sensations." A human sensation is an event which exists in the mind of a person and is made of quality, duration, intensity, and extent if there is any extent; no other metaphysical stuff is a part of the make-up of the sensation. A red sensation which exists in my mind during one second of time and which has an intensity and a bulk is an example of a sensation. It is possible that a comparison of a sensation which exists momentarily in my mind with one of my memories of an event which took place in my mind may make my definition of sensation more precise. On the one hand, unless I assume that I have the ability to remember, all my knowledge is not reliable; on the other hand, my knowledge of the metaphysical stuff without which my memory would be impossible is very incomplete. Each sensation that exists in my mind is an abstraction of such a nature that my knowledge of my sensations is my most perfect knowledge. My knowledge of

the sensations in my mind is more perfect than my knowledge of the sensations of other people. Since other human biological organisms resemble very accurately my body, it is assumed that their sensations resemble very accurately my sensations and that other human beings can know in general what I mean by sensations; however, none of my sensations can be a sensation of another human organism.

Memory and duration. I am not a professional musician; perhaps this explains why, when I am singing, or playing a mandolin, a piano, or a violin, or hearing music of other performers, my attention sometimes goes from the musical sensations to other things of greater interest. Sometimes I am conscious of this change of attention; probably there are times when I am not conscious of the change of attention. Suppose that a sensation having a duration of approximately one second was a part of my mind; also consider the hypothesis that this sensation was not one sensation but many sensations each of which had a duration of much less than one second; if this hypothesis is true, it was impossible for me to be conscious of each one of the sensations of very small duration, because of the defects of my consciousness and of my attention; there is no good reason to say that this hypothesis is not good. Suppose that I have just finished singing the melody "America." I can now remember that I used the monotonous sounds of my metronome to help me keep the time as correctly as possible, that each one of the consecutive notes of the melody had a definite duration, that the durations of the notes were not equal in all cases, and that the durations of the notes were not monotonous. It seems to me that there is in this musical experiment nothing which necessitates that I had any direct knowledge of the durations of the musical sensations. In other words, it is better to assume that I have the ability to remember, and it is better to deduce my knowledge of the durations of my sensations from my ability to remember.

Perception and imagination. A perception is a sensation and a consciousness that the sensation is a map of another physical object which caused the sensation by stimulating the peripheral part of a sense organ. A sensation does not have to be visual in order to be regarded as a map of another physical object; any sensation which performs the function of a map of another physical object can be regarded as a map of the physical object. Under the general term "sense organ," we may include not only the peripheral organ on which the stimulus acts, but also the cortical center by means of which sensations are directly aroused, and also the sensory path through which the impulses are conveyed to the cortical center. Suppose I am observing an object which in ordi-

nary language is called a red box. In this case, a red sensation is a part of my perception of the box; the red sensation is caused by the light which the physicist talks about being reflected from the red box to my eyes, which are parts of the sense organ which causes the red sensation. It seems to me that the word "red" in the foregoing sentence is used in a very ambiguous manner; the expression "red box" means that the box is of such a nature that the box causes a red sensation to become a part of my mind; in other words, the word "red" in the expression "red box" does not mean the same as the word "red" in the expression "red sensation." Since it is assumed that the red sensation and the red box are two distinct objects, there is no reason why the red sensation can not have a duration which is in the neighborhood of one second and why the red box can not have a duration of several years. Perceptions are more than sensations. An imagination is a sensation and a consciousness that the sensation is not caused by a stimulus acting on the peripheral part of a sense organ and is caused by a brain excitation.

If I try to solve a problem in mathematics, sensations are a part of the process of writing the symbols, of looking at them, and of talking to myself about them. This is an illustration of the following general proposition: sensations are always parts of acts of reasoning; however, these acts contain metaphysical stuff which is not the familiar human sensations.

A good knowledge of human biological psychology should greatly help us to understand the nature of physical objects.

Kinds of physical objects. In general, we attempt to distinguish the various human sense organs by the differences in the sensations which they cause. Within the limits of the sensations which can be caused by one sense organ, there may be subqualities. For example, the sensations of vision have many different qualities. The acting stimulus of the peripheral part of a sense organ may be at the exterior of the body or at the interior of the body. While many of our sensations are so distinct in quality that we can recognize them without difficulty, others are of a more obscure quality. In addition to our sensations of vision, hearing, smell, taste, pressure, and temperature, there are doubtless many other sensations less distinct in quality; such, for instance, are the sensations caused by the muscles and by many of the visceral organs. Since the qualities of some human sensations differ very much from the qualities of other human sensations, it is probable that there are sensations which are not human and which differ very much from any of the human sensations. It may be that a knowledge of some sensations which are not human would greatly in-

crease our knowledge of the nature of physical objects. As our knowledge of human biology, heredity, and surgery increases, man may learn to perform experiments so that some kinds of sensations which are now not kinds of human sensations will become kinds of human sensations. Since some parts of a human mind are not human sensations, a philosopher could argue that some physical objects are so unlike human sensations that these physical objects ought not to be called sensations. On the other hand, since human knowledge of human sensations is the most perfect human knowledge, a philosopher could argue that all parts of the mind of a god are sensations; otherwise the god would not be a god; from this point of view, a philosopher could argue that all physical objects are sensations. The proposition that some physical objects are not sensations is significant, not because we can prove the proposition is true or false, but because there is a possibility that the proposition is true.

James in his book on *Pragmatism* states the following. "Berkeley's criticism of 'matter' was absolutely pragmatistic. Matter is known as our sensations of colour, figure, hardness and the like. They are the cash-value of the term." Since James wrote that "It is impossible rigorously to define sensation," it is a waste of time to try to prove that Berkeley's criticism was true or false without a rigorous definition of sensation. I would like to make the following assumptions and then examine Berkeley's criticism: my definition of human sensation is rigorous; my definition is presupposed; when James used the word "sensations," he meant human sensations. Suppose I look at a distant forest; this causes a human sensation to become a part of my mind. I can regard this sensation as being a map of human sensations which individual trees will cause to become a part of my mind if I shall go to the forest, look at the individual trees, and put my hands on them. To regard the forest and the trees as being such human sensations is not consistent with a satisfactory theory of physical objects. A tree may cause an animal to have a sensation which is very different from any human sensation. A god might perceive the tree in such a way that the tree would cause the god to have a sensation very different from any human sensation. Sensations which are not human and simple types of mental physical objects perhaps exist inside the tree. The theory of this inquiry is consistent with the existence of all the different kinds of physical objects. Berkeley was interested in proving that matter can not exist, because he held that the belief in matter leads to atheism; he contributed nothing except confusion to the understanding of physical objects.

Sensations and astronomical objects. Assume that I look at a

star so far away that its distance from my eyes can be conveniently stated in light years. It is evident that the amount of time I have to wait after starting to look at the star before the appearance of the sensation can be conveniently measured by seconds of time or by a fraction of a second. The sensation should be located somewhere. It seems more reasonable to locate the sensation either in my mind or where the star is than at any other place. If I assume that the sensation is located where the star is, I must explain how my mind can cause the sensation to occur where the star is so quickly after I start looking at the star; in other words, to assume that my human sensation happens where the star is is more absurd than to assume that the earth is the center of the universe and that the celestial sphere containing the heavenly bodies makes a diurnal revolution around an axis which passes through the center of the earth. The theory that all my sensations occur in my brain is as important in the field of psychology as the Copernican revolution in the field of astronomy.

Although the theory of this inquiry is a combination of epistemological dualism and of physical monism, this theory is not dogmatic about the nature of the physical world. This theory asserts that human minds are physical objects. According to this theory, all physical objects may be minds or parts of minds or parts of one mind, or some physical objects may not be sensations or may not contain any mental physical objects. One philosopher might believe a philosophy very much like the philosophy in *The World and the Individual* by Professor Royce, and might also believe the theory of this inquiry; another philosopher might be an atheist and a materialist, and might also believe the theory of this inquiry; between these two extremes, other philosophers might believe different types of philosophy, and might also believe the theory of this inquiry.

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BOOK NOTES

The Bill of Social Rights. GEORGES GURVITCH. New York: International Universities Press. 1946. 152 pp. \$2.00.

Professor Gurvitch proposes a Bill of Social Rights for inclusion into the constitutions of contemporary national states. The specific rights enumerated include many of the provisions of model constitutions proposed in recent years and bear a close surface resem-

blance to those incorporated in the proposed French Constitution defeated last year. Only a few of the rights enumerated go beyond any foreseeable possibility of enactment or beyond present technical resources for their realization. Such, for example, are the unrestricted right to emigrate or immigrate, that is, the right to join or to withdraw at will from any political unit, and the right to a happy childhood. The rights discussed fall into three major groupings: those that accrue to the individual as a part of a group—the rights of man as worker, as citizen, as consumer, and as property owner; those that belong to the group as a group—rights of labor unions, coöperatives, and the like; those that accrue to the individual, not as a member of a particular group but simply as a person—primarily rights protecting the individual from domination from any particular group and rights designed to give the individual a positive basis for the realization of his highest potentialities.

The distinctive character and the cutting edge of Professor Gurvitch's proposals are revealed less in the specific rights enumerated than in their organizing principle and in the social ideal that underlies and informs them. Here all similarity between the French Constitution and Professor Gurvitch's proposals ends. Despite the many provisions in the French Constitution designed to protect the individual from the state, it was essentially paternalistic and monistic in its perspective. In contrast, Professor Gurvitch's approach is radically pluralistic. Most of the book is devoted to a defense of pluralism as an empirical reality, as a needed technique for combatting the growing Leviathan, and as a social ideal. Naturally enough, the focus of his position is to be found in his treatment of the relation of law to society.

Professor Gurvitch argues that social law, as distinguished from the legal system of a political order, expresses the organization and structure of autonomous groups and collectivities (bloes of groups) that emerge spontaneously and independently of the state legal system. Though recognized and incorporated into the legal system, social law does not depend on the state for its validity. The primary and determining factors of social processes is the existence of independent and interdependent groups with their own self-generated jural norms and consequent claims and rights. They are the "*autonomous centers of jural regulation*" amidst which the legal and political order of the state is and should remain "a small island in the vast ocean of autonomous jural orders."

The underlying assumption of most treatments of rights, especially of those economic and social rights which we desire to secure for individuals and groups, is that we must look to the state

for the creation and protection of new social rights. "Social" law is thought of as law enacted by the state to protect the weaker elements of society (family, children, consumer, etc.) and to organize state intervention in the economic sphere in the interest of planning. Such a conception is, in the opinion of Professor Gurvitch, part and parcel of a monistic conception of law and makes of individuals and groups merely passive beneficiaries of the all inclusive state. The concrete implementation of this attitude in practice is totalitarianism.

Statism in practice is, in Professor Gurvitch's opinion, the most serious evil of western culture, and the purpose underlying his bill of rights is to so frame these rights that they may serve as instruments to counteract the contemporary drift toward the monopolistic state. His bill of social rights serves this end by extending the principle of checks and balances from the domain of the political to the sphere of the economic and by encouraging the development of autonomous and democratically controlled economic organizations which, while centralized, will none the less remain free as a whole from political authority and will as a minimum operate as a check upon political power.

It is perhaps unfair to the intent of Professor Gurvitch but in estimating the worth of his proposals one can not help but feel that he makes the fatal assumption that political power is one thing and economic power another and that the two can remain independent of one another. The power to decide what shall be produced, how it shall be produced, and how it shall be distributed is indistinguishable in its effects from political power. Whether we call it the one or the other makes little difference in its operative effects. To work for the formal autonomy of political and economic institutions seems to beg the real question which is how to preserve individual and group freedom and yet secure the needs of security through the instrumentalities of a planning economy which seems to demand high centralization and therefore concentration of power. The modified and deepened syndicalistic approach which Professor Gurvitch takes has much to offer in the way of specific devices for maintaining autonomy of local groups and of individuals within these groups. It is not at all clear that we have more than a formal reconciliation in the overall picture however. Our basic social dilemma remains: centralization of planning and control is necessary for the well-being of nations; this means the possession of a high degree of power; and power may always be used for good or for evil.

E. N. G.

Man against Myth. BARROWS DUNHAM. Boston: Little, Brown and Company. 1947. xv + 320 pp. \$2.50.

This is explicitly a book about social superstitions; Dr. Dunham is the man, certain social superstitions are the myth of the title. The "myths" chosen for analysis are "that you can't change human nature," "that the rich are fit and the poor unfit," "that there are superior and inferior races," "that there are two sides to every question," "that thinking makes it so," "that you cannot mix art and politics," "that you have to look out for yourself," "that all problems are merely verbal," "that words will never hurt me," and "that you cannot be free and safe." To the extent that it fulfills its aim of examining these popular fallacies logically, this is a worthwhile book.

Unfortunately, Dr. Dunham slides into apologetics for Marxist doctrine, and thus negates whatever of value there is in the ostensible aim of the book. This is not an impartial critical examination of myths, but a justification of one set of myths by a *reductio ad absurdum* of others. The book might serve well the purposes of teachers of courses in critical thinking; having followed Dunham's criticisms, students would be able to turn their guns against Dunham's implied views, and thus to get double value at one price.

J. L. B.

CURRENT JOURNALS

JOURNAL OF SYMBOLIC LOGIC. Volume 12, Number 2. On absolute properties of relations: *Andrzej Mostowski*. The problem of interpreting modal logic: *W. V. Quine*.

AUSTRALASIAN JOURNAL OF PSYCHOLOGY AND PHILOSOPHY. Vol. XXIV, No. 3. Cambridge Approach to Philosophy (II): *S. S. Orr*. Eighteenth Century Writers on Twentieth Century Subjects: *A. N. Prior*. Hume's Treatment of Identity: *J. C. Maxwell*.

THE PERSONALIST. Summer 1947. (Bowne Centenary Number.) "This Thing Called Personalism": *R. T. Flewelling*. Bowne in American Ethical Progress: *F. J. McConnell*. Bowne in American Theological Education: *A. C. Knudson*. Bowne: Eternalist or Temporalist: *E. S. Brightman*. Bowne in the Classroom: *J. T. Carlyon*. Whitman's Poem of Personalism: *W. A. Huggard*. Personalism as a Form of Explanation: *F. G. Ensley*. Belles Lettres: 1830-1930: *William van Wyck*. Current Thought: *D. S. Robinson*.

ZETTSCHRIFT FÜR PHILOSOPHISCHE FORSCHUNG. Band I, Heft 1. Leibniz und wir. Zum 300. Geburtstag des Philosophen: *Kurt Huber*. Das Modalitäten-problem: *Walter Bröcker*. Numen und Ethos: *Willy Hellpach*. Gottlob Frege als Philosoph: *P. F. Linke*. Zum Problem der philosophischen Grundlehre: *Rudolf Zacher*. Was können wir von der Philosophie der Inder lernen?: *Helmuth von Glasenapp*. Die Lage der Aristotelesforschung: *Paul Wülpert*.

DIALECTICA. Vol. I, No. 2. Connaissance objective et connaissance poétique: *F. et J. P. Gonseth*. Les notions d'objectivité et de subjectivité en physique atomique: *P. Destouches-Février*. Essai sur les notions d'ouverture et de fermeture: *F. Fiala*. Dialectique de l'objectif et du subjectif dans les arts plastiques: *R. Hainard*. Zum Begriff der Dialektik: *P. Bernays*.

REVUE PHILOSOPHIQUE DE LOUVAIN. Tome 44, No. 4. Problèmes épistémologiques fondamentaux: *Fernand Van Steenberghen*. Nouvelles questions de Siger de Brabant sur la Physique d'Aristote: *Anneliese Maier*. Le "Théorème de la connaissance" de M. Jacques Paliard: *Henri Lacroix*. La perception de la causalité selon M. Michotte van den Berek: *Jean Paulus*. Deux ouvrages récents sur Aristote: *Gérard Verbeke*. (A list of doctoral dissertations presented at the Institut Supérieur de Philosophie de Louvain, since October, 1939) (No. 5.) Le problème philosophique de l'existence de Dieu: *Fernand Van Steenberghen*. Doute et croyance: *Roger Verneaux*. Qu'est-ce que le comportement? *Gérard de Montpellier*. Note complémentaire sur les méthodes de déduction naturelle: *Robert Feys*. (Supplément Répertoire Bibliographique.)

RIVISTA DI FILOSOFIA NEO-SCHOLASTICA, Anno XXXIX, Fasc. I. Guglielmo di Moerbeke traduttore della Poetica di Aristotele: *Minio-Paluello*. Il problema dell'essere come persona: *V. Porcarelli*. La definizione della realtà: *F. Olgiati*.

NOTES AND NEWS

A special announcement has been sent to members of the American Philosophical Association informing them of the general program which is being planned for the Second Inter-American Congress of Philosophy which will be held at Columbia University, December 28-31, 1947. The announcement indicates that sessions in which representatives of North American and Ibero-America will participate will be devoted to the following general topics: Theory of Knowledge, Oriental Philosophy and Religion, Metaphysics, Es-

thetics and Philosophy of Art, Philosophical Anthropology, Philosophy of History, and Logic. Later announcements will be made as the program takes more definite shape. Those who wish to communicate with the Program Committee may address one of the following: Professor Cornelius Krusé, Wesleyan University, Middletown, Connecticut; Professor Roger W. Holmes, Mount Holyoke College, South Hadley, Massachusetts; Professor George F. Thomas, Princeton University, Princeton, N. J.; or Professor Donald C. Williams, Harvard University, Cambridge, Massachusetts, Chairman of the Program Committee of the Eastern Division of the American Philosophical Association.

Dr. Georgi Schischkoff, editor of *Zeitschrift für Philosophische Forschung*, notifies us that a group of philosophers in the American Zone in Germany, most of whom are contributors to the *Zeitschrift*, are organizing a philosophical conference at Garmisch-Partenkirchen in Bavaria some time in September 1947. American participation in this conference is solicited by this group and any American philosophers who may be able to attend are asked to notify Dr. Schischkoff as soon as possible. Communications should be addressed to him at Schlehdorf am Kochelsee (Oberbayern), Germany.

The *Australasian Journal of Psychology and Philosophy* changed its name to the *Australasian Journal of Philosophy* beginning with 1947, in order that it may not be confused with the new *Australian Journal of Psychology*. The name of the Australasian Association of Psychology and Philosophy remains unchanged. Mr. J. A. Passmore of Sydney University will be the new editor, succeeding Professor John Anderson, who has been the editor since 1935.

Announcement is made of the National and International Fellowships for 1948-1949 granted by the American Association of University Women for research or graduate study by women students. For detailed information, address the Secretary, Committee on Fellowship Awards, American Association of University Women, 1634 I Street, N. W., Washington 6, D. C.

Theodore Brameld, of the University of Minnesota, has been appointed Professor of Philosophy of Education in the New York University School of Education.

Professor Abraham Edel of City College, New York, will be Visiting Lecturer in Philosophy at the University of California, Berkeley, during 1947-1948.

Arthur Pap, of the University of Chicago, will be Visiting Lecturer at City College, New York, for the year 1947-1948.

Professor Karl Schmidt, professor emeritus of Carlton College, will be Visiting Professor of Philosophy at Columbia University during the spring semester of 1948.

We regret to learn of the death of Léon Robin, Professeur Honoraire at the Sorbonne and president of L'Institut International de Philosophie, in Paris, July 9, 1947, at the age of 81.

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"Definition." JOHN DEWEY and ARTHUR F. BENTLEY.

No. 12. June 5, 1947.

Counting, A Philosophical Analysis. KARL BRITTON.

Comments and Criticism. Signs, Interpretants, and Significata. GEORGE GENTRY.

Review of Charles W. Morris's *Signs, Language, and Behavior* by VIRGIL C. ALDRICH.

Review of Germaine van Molle's *La Connaissance dialectique et l'expérience existentielle* by HELMUT KUHN.

No. 13. June 19, 1947.

The Distinctive Traits of an Empirical Method. LEWIS WHITE BECK.

Metaphysics as Hypothesis. HAROLD N. LEE.

The Nature of the Physical Object. DAVID L. MILLER.

No. 14. July 3, 1947.

The Conflict of Naturalism and Transcendentalism in Peirce. THOMAS A. GOUDGE.

Reason and Existence. MAXIMILIAN BECK.

Psychiatric and Psychological Contributions to Ethics. PATRICK MULLAHY.

No. 15. July 17, 1947.

Isolationist and Contextualist Esthetics: Conflict and Resolution. MELVIN RADER.

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THE JOURNAL OF PHILOSOPHY

THE RÔLE OF PHILOSOPHY IN GENERAL EDUCATION¹

BETWEEN 1942 and 1946 the "Regional Conference on the Humanities" held five conferences in the Rocky Mountain area which were attended by representatives from all fields of higher education in thirty or forty institutions located in seven adjacent states. These conferences reflected widespread and earnest efforts to face the sense of cultural crisis induced by the war and to work together on problems of educational reconstruction. Their practical goal became almost exclusively that of working out an effective system of general education at the college level.

Since I served throughout on the planning committees of the Conference, perhaps there is some merit in my approaching the question of philosophy's rôle in general education for this symposium by reporting on some of the central problems faced by this relatively large group of college and university teachers as they worked together on questions before them. The very nature of the problems formulated and of the issues raised by them may give us here more reliable clues as to philosophy's possible rôle in general education than the approach of our own Commission on Philosophy which was almost exclusively an approach of, by, and for philosophers themselves.

From the first, despite the title of a Conference on the *Humanities*, these conferences refused to restrict themselves to the traditional humanities either as to representation or as to the subject-matter of discussion. We redefined the humanities to refer to all fields of study which serve the needs of humanity and sought to include every major area of learning, the natural and social sciences, and the professions as well as the traditional humanities. Adult education was also included as was administration. Despite this inclusiveness of our deliberations we proposed to face the central issue of humane values as the key to any serious conference on the humanities.

¹ A paper delivered at a Symposium, "Philosophy in General Education" (Alburey Castell, J. W. Cohen, Jeffery Smith), at the meeting of the Pacific Division of the American Philosophical Association, Eugene, Oregon, December 29, 1946.

Here, then, was a radical departure challenging the long prevailing assumption of the self-sufficiency of the traditional humanities in a liberal education. One of the most frequent demands of our time has been the adjustment of cultural values—presumed to be the exclusive domain of the traditional humanities—to the impact and consequences of democracy, science, and technology. Educators have constantly been charged with failure to make this adjustment in working out the value imperatives of modern culture. It was the assumption of our Conference that the only promise of success for such an undertaking lay in the recognition that all fields of learning interpenetrate and have something important to contribute to the teaching and realization of values and that none has an exclusive monopoly in this regard.

What the value imperatives of our culture are became one of the central issues for our discussions. Are there stable and agreed-upon value foundations upon which higher education could be reconstructed and be made a partner in the task of building a sense of society? It was recognized from the beginning that without some such common frame of reference, some minimum consensus, however tentative, it would be almost impossible for the heterogeneous group of educators attending the Conference fruitfully to attack the complex problems before them. It was felt that in the last analysis all practical issues of an effective system of general education depended upon the degree of consensus that could be realized among educators. Those practical problems were many: appropriate administrative structure, policy, and financial support, new course offerings, revision of established courses, adequate teaching; the necessary changes of emphasis away from prevailing departmental specialization towards interdisciplinary, divisional, interdivisional as well as inter-school coöperation, that is, coöperation between the liberal arts and the professional schools, such as law, engineering, education, business, and medicine; the search for unity of purpose among the "humanities," the sciences, the social sciences and the professions so as to close the gaps between the major disciplines; the rethinking of the problems of the graduate school and the training there of creative teachers in all fields; effective extension of the university's influence into the adult community through adult and worker's education;—in short, all major aspects of the problems of the integration of learning and society in a community of values.

Our tasks were therefore formulated in such a way as to challenge all fields represented at the conferences to face this underlying issue—the problem of the integration of education with the value imperatives of modern culture. Those who were responsible

for planning the conferences anticipated the inevitability of controversy and explicitly requested debate on all genuine differences of opinion, insisting that they should not be glossed over. It was not the intention to hold ourselves decorously aloof from the strife of rival values and disvalues. That the discussions were punctuated by constantly recurring moments of controversy was regarded as a mark of the vitality of the undertaking and of the importance of the issues faced.

What, then, were the chief areas of disagreement in the course of the discussions, for they mark the points at which conflicting theories, values, and convictions call for philosophical analysis and reorientation? There were, of course, differences of emphasis which arose from the characteristically divergent language and stereotypes of different fields and specialties. The philosopher's rôle here is obviously that of critical correlation of conceptual and value categories of the various disciplines, so as to supply transformation-formulae which would help overcome avoidable obstacles to agreement. Such differences, and the controversies arising from them, were secondary, however, to the greater difficulties which arose from the central positions taken in our Conference as points of departure for the discussions—our redefinition of the humanities, our formulation of the need for a value consensus and the democratic basis which we proposed for that consensus.

Our primary affirmation was that the *historically emergent* values of democracy, in a world-wide sense, should form the foundation for a consensus of value to which educators should be committed. We insisted that without such a universal frame of reference and such commitment to it, education could not become integrated, nor be relevant for students to the conflicts and bewildering actualities of modern experience out of which men seek to build a united world. Here, you will agree, were problems, both of synthesis and direction, in which philosophers, by profession, are deeply implicated and for whose solution philosophy has always recognized a great responsibility.

It would indeed be a great exaggeration to state that the Conference did more than fruitfully formulate the direction which an effective consensus must take, for it did not reach a real consensus of value. That is a *consummation to be achieved*, not by a majority vote arising from educational debate, nor by the unique efforts of philosophers, but only by the culture as a whole out of the massive interplay of social, economic, and political, as well as of cultural and educational, strivings. Is it not, however, the task of educators to diagnose past failures, to formulate perspectives of attainable value emerging in our society, and to anticipate,

imaginatively and intellectually and with the broadest sympathy of outlook, the necessary educational efforts which can contribute to such ends? In this undertaking, the philosopher's participation, by the very nature of his preoccupations, can not but be of central importance.

There was frank dissent by a small minority at the Conference over the assumption that the values of democracy form the basis for a consensus, but there was considerably more controversy over the possibility or desirability of any value consensus to which all educators should be committed. A few argued that democracy is merely a dogma, or merely a current phase of social organization on a par with, or even inferior to, earlier historical forms in society; or that all historical forms, including democracy, are relative, mere means, irrelevant to the supreme issues of individual worth or absolute values. These are familiar arguments to the philosopher. It is surprising how unfamiliar, yet cogent, they can seem to the many philosophical laymen at a conference of educators. It was inevitable that the Conference was frequently forced to face philosophical problems of the meaning of history and progress; of the relations between historical process, values, and disvalues; of the relation between the individual and the social; of the mutual involvement of ends and means; of the import of conflicting ideologies and values in our world; of the theoretical, institutional, and practical implications for democracy of capitalism, fascism, and socialism.

As I have indicated above, the disagreements were more explicit and continuous over the possibility or desirability of educational commitment to such a value consensus as the Conference proposed. As against commitment, it was argued that higher education called for disinterestedness, that the university should never undertake to teach a set of values to students, that this would be a form of indoctrination and dictation. Proponents of commitment pointed out that the above views fail to cope with the inevitable rôle of all education in canalizing belief and motivation and that it is only a question of the content of the belief and the import for action of the motivation; that if education did not consciously face the issue of the kind of values taught, other groups and institutions, perhaps less scrupulous about methods and theories, would do so, indeed were constantly doing so; that such views failed to distinguish between an educational approach whose value assumptions are demonstrable as valid, and one whose assumptions are demonstrably arbitrary, or merely disguised apologetics for the prevailing assumptions of the culture.

Another type of argument, compatible with doctrines of con-

templative disinterestedness, and one which provides strong academic support for our cultural individualism, took the form of an appeal to values which are absolute and eternal and therefore indifferent, or irrelevant, to the specific and contemporary democratic purposes of our culture. Closely related to this traditional position was the argument that the humanities, as distinct from the natural and social sciences and the professions, have in their own sole keeping the function of providing a framework of value to the other fields and particularly to the social sciences—a view obviously incompatible with the earlier argument for disinterestedness, but one which challenged the basic assumption of our Conference, that all fields of learning must coöperate in the creative formulation of value and that the social sciences particularly have a central rôle to play, concerned as they are with the historical and social processes within which social as well as individual values are emergent. In further opposition to this Conference view, it was claimed that the natural sciences are neutral about values and that the social sciences are immersed in the contemporary biases and propaganda assumptions of the going culture and are therefore incompetent to deal with values. This the humanities could do, presumably because they are conceived as devoid of the impurities of bias and propaganda—surely a rather strange conception of the worlds of a Plato, a Dante, a Whitman, a Tolstoy, worlds of ultimate and passionate commitment. The position is one which, instead of recognizing their mutual interdependence, sets up an impassable dualism between the sense of values and the sense of society, but resolves it in the end by ignoring the actual course of history and by having the former direct the latter.

In like manner many members of our Conference could not accept the position that the sciences are neutral with regard to values. Is not science inevitably the partisan of scientific truths, espousing truth values and their techniques while rejecting the disvalues of ignorance, error, superstition, and their techniques? A great western tradition has linked science with values since the early Greeks, a tradition which has continuously expanded in the modern era. Again, to call science neutral is to fail to recognize its intricate involvement in the social context of modern industrialism within which scientific problems have been formulated and scientific research canalized. It is to ignore the implications of the fact that scientific knowledge is social power as well as power to control nature. Even more specifically, it is to ignore the frequent misuse of science's prestige by the commercial exploitation of pseudo-scientific claims and the consequent need in a democracy for the greatest diffusion of the scientific spirit to combat old and

new forms of credulity amidst the dangerous expansion of unscrupulous opinion-moulding techniques—themselves the product of modern science.

Others at the Conference suggested that the present need for change lies as much within the departments of the traditional humanities as without, and that some of them are losing the power to serve education and society by persisting too long in the stress on values isolated from the forces which mould them, on doctrines of ends isolated from means. They were accused of remaining wedded to a cultural individualism which the world no longer needs and may prefer to do without.

Those who, rightly or wrongly, entertain this critical attitude toward the traditional humanities in our universities will undoubtedly grin over a recent typographical error in the *Journal of the History of Ideas* which, intending to refer in its bibliography of new books to the title, "A State University Surveys the Humanities," printed instead the title, "A State University Survives the Humanities."

Still another objection to the possibility of commitment to a consensus of value was embodied in the argument of Quincy Wright of Chicago at our conference last June. Any value commitment in our day can only be a negative one, he insisted, that of freedom to differ about values. This view obviously approaches the problem of consensus with the assumptions of laissez-faire individualism. It is a view, moreover, which also coincides with the negative conclusion on the subject of shared values in the recent Harvard report, that we can not agree about ultimates and must acquiesce in multiplicity of outlook. Is this not a position which confuses values with mere individual tastes and which tends to evade the realities of the life of value, in constant conflict with manifest disvalues and embedded in a dynamic culture heading for possible salvation or destruction? Is it not an evasion of the fundamental truth that values emerge out of objective conditions and shared needs and that we are dealing here with foundations of belief which guide motivation for millions, mould convictions, and culminate in the action of organized groups, nations, and congeries of nations, and far transcend the careers of individual persons?

Conceptions of disinterestedness, of abstract, eternal, and absolute values, of a value hierarchy provided by the humanities alone, of the value neutrality of science, of the inevitably negative character of any present consensus, all call for the closest scrutiny of their claims to validity. Do they not have one thing in com-

mon, either in their nature or in their consequences—that they more readily encourage an attitude of aloofness from the conflict areas in our culture and suggest to educators and other intellectuals that they need not make decisions significant for the world of action or for history in the making?

The sense of urgency stimulated by the war accounts perhaps for the readiness with which in our earliest conferences we had rejected the attitudes of neutrality and non-committalism with respect to values. We were ready to recognize the compatibility of deep democratic conviction with effective and creative teaching. The sudden end of the physical conflict probably accounts for the resurgence of counsels of evasion. But the tensions of peace seem to be as great, and the accompanying urgency as real, as those of the war. Issues between democracy and reaction crowd the domestic and world scene and promise to invade even more stridently our academic halls. The intrinsic interdependence and interpenetration of society and education will not be gainsaid and theories which encourage escape from contemporary choices will hardly be able to maintain themselves.

Educators readily acknowledge that effectively to face contemporary problems it is also indispensable to consult the guidance and verdicts of history. It is perhaps significant to note in this connection that our Conference revealed a peculiar uncertainty over the place of history and the historical approach in general. It did not effectively confront one of the central problems in the task of educational reconstruction, the proper selective use of the past. Indeed, the question posed itself: Do we not lack an adequate philosophy of history which is equally indispensable with a philosophy of value? The discomfort and uncertainty of the Conference with respect to the historical approach manifested itself at a number of significant points in the varied deliberations.

Thus the scientists, though in the process of rapid adjustment to conceptions of the social responsibility of science, did not include the history of the sciences and of scientific institutions, that is, the historical social relations of science, in their consideration of the content of general science courses. Surprisingly enough, even the social scientists expressed some uncertainty over the place of history and whether historical should be included along with analytical material. Discussions of value problems, frequent as they were in the humanities sections, rarely concentrated attention upon the obvious historical phases of the changing value traditions in the arts and letters, philosophy and religion. Indeed, President Colwell affirmed that the University of Chicago, for all its varied innovations and massive administrative support of general

education, had not solved the problem of an adequate historical approach. One must point further to the fact that the conferences did not once touch upon the significant rôle which the department of classics could play in general education by bringing to bear upon our modern problems selected perspectives from the total experience of antiquity.

This is not to say that educators avoid history: they revel in it if they can do so without responsibility to the present. The temptation to fight shy of it is great when effective education demands from us significant selection and interpretation in the light of values towards which our world moves amidst disvalues and conflict. Yet our Conference did affirm that values emerge in history, that we must educate towards the emerging values of contemporary civilization, and that only in this way can we make our education relevant to the students' needs and to the needs of our critical era.

To give education greater relevance to the requirements of our culture in crisis; to eliminate the vast range of well-intentioned and seemingly innocent academic "fraud" which we perpetrate upon generations of students by our specialized abstractions, and by our absorption in content without sense of direction and specific application, by our talkativeness without vision, and by our solemnity and respectability within academic pastures insulated from the fever and fret of a world in transition; to find an antidote to the atomization of learning into its specialties; and to explore avenues which can make it again a coöperative enterprise serving the best interests of the community—are these not the true aims of general education?

This is a program in which philosophy should play a central rôle and I hope I have indicated to you what seem to be some of the underlying problems of general education in the solution of which the training and special competence of philosophers seem to be indispensable. It is my belief, however, that unless we make the philosophic concern with values more central and expand that concern beyond the realm of abstract value theory, unless we enormously broaden and deepen our approach to social philosophy and to the philosophy of history, we will not be able to meet the challenge and the opportunity held out to us by the new trends in general education.

As long as general education is conceived merely as the correction of the shortcomings of departmental specialization or of the free elective system, it is doubtful that philosophy departments will be challenged to do much more than adjust course offerings to whatever tentative schemes of general education are worked out.

Philosophy courses, like logic, introduction, history, and ethics, it will be argued, are sufficiently general in character and can readily be fitted without much change into the college plan. Philosophy departments will also perhaps provide more personnel to teach divisional courses than most other departments because of the broader range of our discipline.

If, however, we recognize the movement toward general education as involving the critical problems of a thorough social, historical, and value reorientation in all fields and in education as a whole, then we will be challenged to come to grips with the full measure of our philosophical responsibilities.

The task is so far-reaching that the situation should call, in my opinion, for a measure of coöperation among philosophers, such as we have not envisioned before. I suggested at the meeting of the Western Division of the Association last May that something in the nature of a society for the philosophical study of social issues be established, one that might possibly meet concurrently with the American Philosophical Association, to stimulate a more systematic investigation of these problems. Perhaps philosophers, notorious as their disagreements are, can work out a minimum consensus for themselves as to their own proper rôle in this task facing all education. We would not then find ourselves, as we so often do, each in his own institution and community, coping in relative isolation with problems and situations that call for as much joint wisdom as philosophers can fashion out of a conscious effort to work together.

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COMMENTS AND CRITICISM

A NOTE ON COLLINGWOOD'S CRITICISM¹ OF TOYNBEE

Collingwood, after recognizing the "incredible mass of erudition," "enormous impressiveness" of the detail, and "very fine historical sense" of Toynbee's work, says that the *Study of History* "represents a restatement of the positive view." By this Collingwood means "that the principles which constitute its individuality are principles derived from the methodology of natural science.

¹R. G. Collingwood, *The Idea of History*, Oxford, Clarendon Press, 1946, pp. 159-165; A. J. Toynbee, *A Study of History*, 3 vols., Oxford, Clarendon Press, 1935. Collingwood had not read volumes 4-6 of Toynbee's work at the time of writing his essay.

These principles are based on the conception of external relations. . . . If the scientist's methods are to work at all, the first thing necessary is that a clear line should be drawn between one fact and another." The kind of individuality possessed by a society or a civilization is the kind "possessed by a stone or any other material body." Collingwood says that, so far from this being true, Western Civilization is actually related to the Hellenic in an internal way: "Western Civilization expresses, and indeed achieves, its individuality not by distinguishing itself from Hellenic Civilization but by identifying itself therewith." He says that Toynbee fails to understand this because his general conception is "ultimately naturalistic," because he regards the life of a society as "something at bottom biological" and "best understood on biological analogies." Collingwood adds that Toynbee's whole scheme is "really a scheme of pigeon-holes elaborately arranged and labelled, into which ready-made historical facts can be put." He summarizes his criticism of Toynbee as follows:

First, he regards history itself, the historical process, as cut up by sharp lines into mutually exclusive parts. . . . Secondly, he misconceives the relation between the historical process and the historian who knows it. . . . He fails to see that the historian is an integral element in the process of history itself, reviving in himself the experiences of which he achieves historical knowledge.

Perhaps it would not be presumptuous to summarize these criticisms of Toynbee:

1. His work is "naturalistic" in two senses:

- (a) His principles are derived from the methodology of the natural sciences and this methodology requires that societies be regarded as discrete individuals having the same kind of individuality that a stone has.
- (b) He holds that the life of a society is "at bottom biological" and can be best understood "on biological analogies."

Toynbee is not aware of his naturalistic principles.

2. He fails to see that "the historian is an integral element in the process of history."

In answer to these criticisms it may be said that few historians have been quite so clear as Toynbee on the relativity of historical thought and on the principles governing their own work. Toynbee writes (Vol. I, p. 1) that "In any age of any society the study of history . . . is governed by the dominant tendencies of the time and place"; he condemns (Vol. I, p. 4) those teachers of history who describe their "seminars" as "laboratories" and explicitly says that it is disastrous, both in the world of action and in the world of ideas, "to treat animals or human beings as though

they were stocks and stones" (Vol. I, p. 7); in short, Toynbee uses the first sixteen pages of his first volume to disprove the applicability of methods of the physical sciences to the study of history and a deeper insistence on that inapplicability permeates the whole of the rest of his work.

In the chapter on "The Relation between Growing Civilizations and Individuals" in Volume III Toynbee specifically analyzes the nature of societies. In that analysis he quotes with approval G. D. H. Cole's judgment that

Again and again, social theorists, instead of finding and steadily employing a method and a terminology proper to their subject, have attempted to express the facts and values of Society in terms of some other theory or science. On the analogy of the physical sciences they have striven to analyse and explain Society as *mechanism*, on the analogy of biology they have insisted on regarding it as an *organism*, on the analogy of mental science or philosophy they have persisted in treating it as a *person*. . . . These various analogies have very different degrees of value and disvalue. The mechanical analogy and the organic analogy have been alike definitely harmful and have led theory seriously astray; for they both invoke a material analogy in what is essentially a mental or spiritual study.

Toynbee himself remarks that "It is sufficiently evident that the representation of a society as a personality or as an organism does not offer us an adequate or accurate expression of the society's relation to its individual human 'members.'"

These references are sufficient to establish the following points in answer to Collingwood's criticisms:

1. Toynbee was quite well aware of the "principles" on which his work is based.
2. Toynbee explicitly repudiates the principles of natural science and establishes the inapplicability of its methodology to the study of history; he, equally explicitly, repudiates the mechanical and biological analogies as inapplicable to societies.

The question then arises: What led Collingwood to suppose that his criticisms were valid? A clue may be found in the fact that he is especially and most emphatically critical of Toynbee's judgment that Western Civilization is separate from the Hellenic, for he himself believes that the Western "achieves its individuality by identifying itself with" the Hellenic. Now Toynbee's own statement of his conclusion on this point is: "While the continuity between the histories of one society and another is very much slighter in degree than the continuity between different chapters in the history of any single society (indeed, so much slighter as virtually to differ in kind), yet in the Time-relation between two particular societies of different age—namely, the Western and the

Hellenic—we have observed features which we may describe metaphorically as “apparentation” and “affiliation.” In the light of these conclusions on matters of historical fact, we can draw certain other conclusions regarding history as a humane study. Its true concern is with the lives of societies in both their internal and their external aspects. The internal aspect is the articulation of the life of any given society into a series of chapters succeeding one another in time and into a number of communities living side by side. The external aspect is the relation of particular societies with one another, which has likewise to be studied in the two media of time and space. This view of history may be supported by a further quotation from Lord Acton:

“By Universal History I understand that which is distinct from the combined history of all countries, which is not a rope of sand, but a continuous development, and is not a burden on the memory, but an illumination of the soul. It moves in a succession to which the nations are subsidiary. Their story will be told, not for their own sake, but in reference and subordination to a higher series, according to the time and degree in which they contribute to the common fortunes of Mankind.”

It is, in the first place, obvious from the first part of the above quotation that Toynbee does not draw a “clear line between one fact and another” and that he does not regard the individuality possessed by a society as of the same kind as that “possessed by a stone or any other material body.” And, secondly, both Toynbee and Acton may reasonably be supposed to be not unreasonable and Toynbee’s long, very careful, highly documented and painstaking analysis that leads to the conclusion is countered by Collingwood with only an unsupported flat assertion. The assertion is, furthermore, not unambiguous: the process by which the “Christian” Western Society could “identify” itself with an earlier pagan society is obscure, the very possibility of there being such a process is doubtful.

Collingwood also explicitly insists on the “continuity” of the historical process and denies that Toynbee’s distinction between civilizations is anything more than a distinction between “focal points” in that process. This is again to counter a long and careful analysis with a mere assertion, and the assertion is not enough. For the assertion to stand, it would have to be shown that the Andean, Yucatec, and Mayan societies, for example, actually did have some effects on, or were affected by, some other society. So far, no supporter of the “continuity of history” (or “unity of civilization”) theory has been able to do so.

Finally, Collingwood’s assertion that the historian is an “integral element” in the historical process is difficult to understand.

It is unlikely that he meant it in the sense that Gibbon was an element in the affairs of the Roman Empire or Nordenskiöld in those of the Andean Society. Possibly he could have meant that Gibbon's interpretation of Roman affairs had effects in the historical processes of the Western Civilization, or Thucydides and Tacitus in those of the Hellenic Civilization; if this be the meaning, it can hardly be said to have been established. Or possibly he meant it only in the very vague and general sense in which any event or person may be said to be an element in the "process of history"; if this be the meaning of the assertion then its validity depends upon the "continuity of history" theory,—and it would be very difficult indeed to show that Thucydides' opinions had any effect whatever on the affairs of the Aztecs, or Ibn Khaldun's on those of the Japanese.

It is surprising that so able an historian and philosopher as Collingwood has fallen into these errors of interpretation; it may be hoped that no others will blindly accept his interpretation of Toynbee's important study.

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BOOK REVIEW

A Study of History. ARNOLD J. TOYNBEE. Abridgment of Volumes I–VI by D. C. Somervell. New York and London: Oxford University Press. (Issued under the auspices of the Royal Institute of International Affairs.) 1947. xiii + 617 pp. \$5.00.

The condensation of Arnold Toynbee's monumental work to approximately a sixth of its original length inevitably involves great loss, and the editor himself is keenly aware of the values he was forced to sacrifice. Gone is the meditative calm, the cautious and leisurely advance, punctuated by climactic moments of discovery and triumphant synopsis; gone also the wealth of illustrations, the grand array of cities and empires, warriors and saints, of societies miraculously rising and sinking back; and gone, finally, is much of those stately arguments which, in the original volumes, have a curious way of coalescing with their imaginative illustrations so as to form philosophical myths. There is, however, enough gain in this loss fully to justify the labors of the editor as well as the approval of Mr. Toynbee, who gave the abridged edition the benefit of a final revision. It is sufficiently meritorious to have provided a short-cut for the large number of readers who can not afford taking the long journey through six volumes. In addition

Toynbee's thought, forced into the narrow compass of a single volume, shows its outline and structure with a new impressive clarity. Reading Mr. Somervell's edition one may feel, as Toynbee himself did, that this is not the old book mutilated, but a new book telling the same story at an accelerated tempo. The omissions are considerable but they are made in accordance with a consistent plan. The proportions of the original are not distorted but replaced with new ones. Mr. Somervell has successfully performed a *tour de force*.

A Study of History is now being widely discussed, and, especially since its author recently paid a visit to this country, even the public at large—the readers of *Time* and *Life*—caught a glimpse of Toynbee's heroic epic of the lives and exploits of twenty-one societies, sixteen of them defunct, and the five surviving ones either moribund or (the case of our own society) afflicted with an illness that may well prove fatal. This reviewer, in leafing through a popular magazine, was shocked to run across the term "Toynbee-anism." In short, the distressing symptoms of success are unmistakable, and Toynbee seems doomed to play in our post-war era the rôle which Oswald Spengler played after the First World War.

In several important respects *A Study of History* bears a close resemblance to *The Decline of the West*, and Toynbee generously acknowledges the accomplishments of Spengler as a precursor in the field of "empirical philosophy of history." Spengler, like Toynbee, held that the basic units of the historical life of mankind are structures of wider compass than nations or states. Spengler calls these units cultures, while Toynbee prefers the name of societies. Both show that these vast collective bodies grow up, reach a climax, and finally go into decline, and for the German scholar as well as for the British historian, the terms descriptive of this periodicity are suggested by the analogy of the living organism. There is further far-reaching agreement as to the chief symptoms of growth, maturity, and disintegration. Spengler, for instance, following J. G. Droysen and Jacob Burckhardt, regarded the formation of vast super-national empires, held together by the military power of great war-lords—a phenomenon he styled "Caesarism"—as characteristic of a period of disintegration. This idea is closely paralleled by Toynbee's analysis of the rise of the "universal state" as a final attempt to rally a society on the verge of breaking up. But the similarity in numerous details (which should be welcomed as mutually corroborative evidence) is less significant than the identity of comprehensive vision. In perfect unison with each other, the two interpreters of history reject the idea of a universal human society engaged in a rectilinear pro-

gressive movement, and they replace this historical monism with a pluralism of cultures or societies. No matter how they are placed on a table of absolute chronology, these cultures or societies are, they hold, contemporaneous with each other in a philosophical sense. For example, the society of Charlemagne, although by one and a half millenniums later than the Homeric society of Ionia, may yet be considered "contemporary" with the world of Hellenic city-states of the eighth and seventh centuries B.C. in so far as both represent the identical stage of growth in the periodical life process of their respective societies.

Inevitably the idea of cultural contemporaneity brings up the anxious question as to the hour to which our own historical clock points. Where, in past history, are our own contemporaries? Have we already witnessed the sack of our Rome? Is that final night which blotted out Babylon, Carthage, and Rome already closing down upon us? Spengler felt no scruples in applying his results to problems of the day and he advised his readers to stop writing poetry and to take to engineering, because the new Iron Age made inwardness and art obsolete. The wiser Toynbee avoids helping along Necessity by advertising its purposes. But in spite of all his caution and reserve his considerations open the same vertiginous vistas which once gave vogue to Spengler's historical panorama. Implicitly more often than explicitly, Toynbee invites us to decipher the hieroglyphics of our own historical hour—the destruction of Europe, the atomic bomb, the rise of Soviet Russia—in the light of analogies supplied by historical experience of unmatched breadth. The same method of historical analogy tempts the analyst to peer into the future. The uninhibited Spengler prophesied profusely and, on the whole, with amazing success. He proclaimed the imminence of Caesarism which was then promptly put into effect by Mussolini, Hitler, and Stalin. Toynbee too, though disclaiming any prophetic pretensions, sometimes indulges in premonitions based on analogy. He wonders, e.g., whether Russia, incorporated as it now is in the Great Society, might be predestined to play the typical rôle of the creative minority, working out a solution to the problems of our Western Civilization and finally imposing this solution by force (p. 240). When the Philistines gathered together all their armies, Saul, troubled in spirit, betook himself to the clairvoyant woman of Endor. Oppressed by like fears many a reader will strain his ears chiefly to discern the dark omen that faintly echoes through Toynbee's pages:

Men's curiosity searches past and future
And clings to that dimension. [T. S. Eliot.]

The honors of the pioneer go to Spengler, and he may also be credited with being more conversant than Toynbee with the history of ideas, with certain fields of science, and with the history of the arts. On every other count the British scholar carries the prize. His field of historical vision is wider. To a remarkable extent he surmounts the preoccupation of the occidental mind with the occident, and remote civilizations of which Spengler knows little or nothing move into the searchlight of analysis. But this stupendous universality of interest and information is less significant an advantage over the German precursor than English-bred open-mindedness and empiricism. Spengler, filled with speculative ardor, is under the spell of his own vision. Toynbee retains the freedom of critical doubt and qualification. The biological analogy holds undisputed sway in *The Decline of the West*. This accounts for the unscrupulous violence of the book as well as for its imaginative power. For Spengler, cultures, each a living entity by itself and essentially unrelated to other specimens of the same genus, seem to emerge out of the Boundless, run their fated course, and relapse into the original abyss "according to the order of time" like the successive worlds in Anaximander's cosmogony.

Toynbee uses the pattern of biological rhythm with greater critical reserve and his circumspection is rewarded by a refinement of morphological observation and differentiation which reveals an unexpected wealth of typical structures. His method proves particularly fruitful in application to the field of interaction among different societies. Distinguishing societies which sprang out of virginal ground from those which developed from the remnants of an older society (as, e.g., our Western Christian society grew out of the ruins of the Hellenic society), he arrives in regard to the latter class at a well-documented picture of genetic relationship. The "affiliated" society, he shows, enters into a typical partnership with the parent-society. The bond between the two is furnished by a "universal church," formed in the bosom of the "apparented" society during its decline and surviving its final breakdown. As the universal church of Christianity survives Hellenic society and links it to the affiliated Western society, so Hinayana Buddhism links the ancient Indic society with the Hindu society arising in the ninth century A.D. in North India. In the course of these analogical considerations Toynbee tries to bring light into the obscure problem of Orphism by hypothetically tracing it to the Minoan society.

The internal life of civilized societies, brought under scrutiny by Toynbee's comparative method, likewise reveals a multitude of interlocking features. Concepts such as the internal and external

proletariat, the creative and dominant minorities, the "time of troubles," archaism and futurism and many others, may in more than one detail be subject to doubt and qualification; on more than one occasion we may refuse to go as far in trusting analogy as Toynbee does. Yet taken in their entirety, these concepts combine into an interpretation of boldly sweeping contours, of subtle adjustment of all its parts and, at the same time, of secure empirical foundations. Almost irresistible is the fascination that grows upon the mind by seeing widely different facts put in mutually illuminating relation to one another and by discovering a recurrent pattern where we used to be perplexed by a concourse of chance happenings. Yet there is no black magic in this synoptic spell. The charm is eased and, at the same time, rendered more delightful by a feeling that even in the dizzy moments of this voyage through the countries of the globe and the millenniums of the past, some familiar, others uncharted, we have at our side an incredibly patient and knowing guide. Belonging as he does in the lineage of Herodotus and Thucydides, Machiavelli and Gibbon, Ranke and Taine, bred, at the same time, on the rhythms and teachings of the great poets from Homer down to Goethe, he seems more eager to explain and let us see things by ourselves than to hurry us along a route mapped out in advance. The dissatisfaction which we occasionally feel is with ourselves. For us, occidentals by training that we are, Toynbee's analogies are too often based on a conjunction of the familiar—the history of the Hellenic-Roman and Western civilizations—with worlds so foreign that we must throw ourselves upon the mercy of our informant. This should be one more reason to us for studying Toynbee, and not only the abridged edition. In addition to conveying insights he may contribute to our education.

The application of biological periodicity to human life holds grave dangers. This is made sadly clear by Spengler. His manners are those of the medicine-man administering intellectual excitement as an antidote to lethargy, and we may class him with the prophets of heroic nihilism, the high-brow admirers of gladiators, bull-fighters, "men without women." With somber equanimity and not without a note of bravado he sees human freedom obliterated by the inexorable rhythm of historical necessity, notes the symptoms of agony, and pronounces the imminent demise of our senescent world. All this is utterly foreign to Toynbee. He takes great pains to safeguard the status of the human individual as a free agent, and one of his arresting philosophical similes (Vol. III, pp. 227-229, omitted in the abridged edition where the problem is discussed on pages 209-216) is designed to ward off the

encroachments of biological fatalism. Far from pronouncing a verdict on our civilization, he holds out a hope for resuscitation qualified by a warning. But just by manfully combating historical fatalism he calls our attention to the difficulty in avoiding this inference. Toynbee has a keener awareness of the problem involved in his approach than the desperado, Spengler. The problem, however, is still the same, and the exit pointed out by Toynbee may testify to a personal triumph but it can hardly be taken for a philosophical solution. This brings us to an examination of the core of Toynbee's philosophy of history.

Toynbee's interpretation hinges upon the correlative ideas of challenge and response (pp. 60-79 and *passim*). The development of civilizations is not to be understood as the effect of environmental conditions alone, nor does a supposed entelechy, a creative *nisus*, innate in a nation or society, furnish a sufficient explanation. The two factors must be taken jointly, as interacting upon each other. Just as in nature two polar principles, the male and the female, are required for procreation, so the creative spark also at the human level needs to be ignited by a creative encounter. The environment, both human and natural, impinges upon a social group. The response made by this group is not the predictable effect determined by the challenge as the cause. In responding the group shows its mettle. It may either desperately try to ward off the challenge and finally succumb, or it may succeed in turning adversity into a blessing. In overcoming the obstacle placed in its way, the imperiled society may develop forms of production unheard of before. This is creativity, and such is the origin of civilizations. So some of the inhabitants of the once fertile plains of North Africa, when threatened by progressive desiccation of their pastures, did not take the line of least resistance which may have consisted in joining the exodus northwards but dared to settle in the swampy Nile valley, unwholesome and infested with miasms as it was. Dealing creatively with this challenge, they invented a system of drainage and thus became the founders of a civilization. Another illustration is afforded by ancient Israel. Wedged uncomfortably into an interstice between bellicose giant neighbors, it rose out of its political calamities to the vision of a God in whose sight empires come and go like the leaves in the forest. This too was response to a challenge.

Comparing numerous different challenges, Toynbee reaches the conclusion that the optimal challenge, i.e., the one best designed for eliciting creativity, is a golden mean between too much and too little (pp. 140-163). Too severe a challenge will either overwhelm the creative impulse altogether, or it will prevent the so-

ciety from advancing beyond a level defined by Toynbee as that of the "arrested civilizations." Instances are the Eskimos in the polar regions and the nomads in the Arabian desert. Again too soft a climate and too hospitable a land will fail to stimulate man into productive activity.

The growth of civilization consists in a series of creative responses to a recurrent challenge. The moment that no adequate response is forthcoming, the society enters the concluding phase of its existence, the period of disintegration. The process of creation goes into reverse. Instead of inventing increasingly refined methods of dealing with its problems, the society, desperately trying to stave off disaster, must resort to ever cruder methods of self-defense which, while retarding the final break-up, make it all the more inevitable. It must be noted that, according to the principles of this analysis, the failure which initiates disintegration is not an unaccountable calamity which may or may not occur. It rather appears that creativity necessarily falls a prey to disintegration. There is, as Toynbee expresses it, "a nemesis of creativity" (pp. 307-359). A remedy, found successful once, is mistaken for a panacea, mechanical mimesis replaces resourceful creativity, Prometheus settles down to the routine of his steam-heated menage, and Hannibal draws up a Maginot Line. Although Toynbee does not say so explicitly, this "enerusting," as Bergson expressed it, or ossification of the live creative impulse must be due to some inevitable vital exhaustion like senescence and death in animals. On any other hypothesis it would be difficult to account for the fact that past societies have run their course from growth through maturity to senility and death in approximately the same span of time. After all, we have not moved too far from Spengler and his arboretum of cultures.

The rhythm of challenge and response results in a secondary rhythm, that of withdrawal and return. Before delivering his message the prophet retires into the desert. Only after dismissal from office does Machiavelli become the great historian and political thinker. The examples abound. "The withdrawal," Toynbee writes, "makes it possible for the personality to realize powers within himself which might have remained dormant if he had not been released for the time being from his social toils and trammels" (p. 217). The same observation applies to social groups. During periods of growth action is initiated by a "creative minority" which wins freedom of creation through a voluntary or involuntary withdrawal from the larger society to which it belongs. The solution discovered in seclusion is then, in the move of return, placed at the disposal of the great society. But here once more

the nemesis of creativity interferes, congealing life and intuition into the hard shell of custom and constraint. The return performed, the "creative minority" degenerates into a "dominant minority," which, while enforcing an external order, battens on the decay of the whole (pp. 371-375).

It may seem that, throughout these analyses, we never emerge out of the sphere of biological or quasi-biological periodicity. To be sure, a body comparable to an animal organism is not discernible. But we perceive the pulsation of vitality, the oscillation between maladjustment and adjustment, or between stimulus and response, the measured life-span, and death as the guerdon of life. There is, however, another side to this picture.

True Bergsonian that he is, Toynbee uses "life" as a term which expresses the principle of a biologicistic metaphysics rather than a principle of biology. As in Bergson, the underlying metaphysical conception of a life-force is balanced on the knife's edge between animality and spirituality. By origin the concept of challenge-response is unquestionably biological. But it is so conceived as to render possible an easy passage from the biological or quasi-biological to the spiritual. In fact, the idea of this passage is incorporated in Toynbee's subtly differentiated idea of growth. Growth, in his definition, is not only a series of reiterated responses to a recurrent challenge but it involves a shift from one plane of action to another, from an outward field to an inner field. A process of internalization or, as Toynbee prefers to call it, "etherealization," takes place (pp. 198-208). With this modification the idea of response becomes sufficiently flexible to cover achievements so widely different as, in the illustrations just referred to, the invention of a drainage system is from the discovery of the living God. Toynbee must put a heavy strain on his basic terms to make them discharge their varied duties.

We meet the challenge of distance by building roads and constructing fast-moving vehicles. But then we get road accidents. The crudely external challenge of space recurs as an inner psychological challenge to the driver. Or again: after building a technical civilization which ministers to our needs we read in the gospel according to St. Matthew: "Take no thought for your life, what ye shall eat or what ye shall drink; nor yet for your body, what ye shall put on. Is not the life more than meat, and the body than raiment?" (original ed., III, p. 191). These are illustrations of the "transference of the field of action" and "etherealization." Are we still hugging the safe shore of a comparative study of history or has a metaphysical wave carried us far out on the ocean of speculative thought?

I suggest that Toynbee uses analogy in two entirely different senses—in a “horizontal” and again in a “vertical” direction. The horizontal analogy associates phenomena of the same type or structural level. So the administrative apparatus of the Roman empire is compared with the British Civil Service, the Jewish prophets of the Exile with the Red Indian prophets during the colonial era. This use of analogy is familiar and, if handled by a master of Toynbee’s rank, of great fruitfulness. It is, in fact, an indispensable tool of all historical study. But what I call the “vertical analogy” is philosophically of much greater interest. It puts together phenomena of different types or of different structural levels such as a system of drainage and a vision of God, technology and salvation, biological processes and spiritual processes. Denying the legitimacy of this second kind of analogical reasoning would be tantamount to denying the possibility of philosophy. Spiritual life is analogous to animal life, and this is why even the boldest application of the challenge-response pattern still makes sense. In order to be legitimate, however, the use of vertical analogy must strictly observe the rule of hierarchy. That is to say, it must give each level or rank its due, never ascribing to God what is characteristic only of man, or to man what is specifically animal. On this point, Bergsonian philosophy is defective. Instead of being hierarchical its concept of a life-force blurs the distinction between the biological and the intellectual. Vitality and spirituality are made to flow into each other.

Applying this general remark to Toynbee’s interpretation of history, we find him laboring hard but with uncertain success to effect the transition from the biological to the specifically human. By “internalizing” or “etherealizing” the challenge-response pattern he actually robs it of its precise meaning and fails to attain to a clear idea of a specifically human task. Man’s relation to the universe or God is not adequately to be described as a case of challenge-and-response. The doctrine of the Second Coming of Christ is hardly illuminated by its classification under withdrawal-and-return. And one may wonder whether the idea of a race of saviors, with Christ winning out as the only true savior, is good theology (p. 547). Toynbee is concerned with the saving of civilizations through restoration of creativity, Christ is concerned with saving sinners, and the two concerns, though not unrelated, should be clearly distinguished from each other.

Our criticism, if justified, cuts rather deep. It affects both Toynbee’s general picture of history and his diagnosis of our own plight. As we survey Toynbee’s historical panorama the dominant feature that strikes the eye is the “elemental rhythm.” “The work of the Spirit of the Earth, as he weaves and draws his

threads on the Loom of Time, is the temporal history of man as this manifests itself in the geneses and growths and breakdowns and disintegrations of human societies; and in all this welter of life and tempest of action we can hear the beat of an elemental rhythm whose variations we have learnt to know as challenge-and-response, withdrawal-and-return, rout-and-rally, apparentation-and-affiliation, schism-and-palingenesia" (p. 556). This is the same rhythm which the Chinese philosophers discerned when they spoke of the alternation of Yin and Yang, or which beat out for Antiochus the grim lesson of life: "Learn thou the rhythm which holds men bound" (*γίγνωσκε δ' οἷος ἄνθρωπος ἀνθρώπους ἔχει*).

This first note, so Toynbee continues in his nobly imaginative account, sounds harmoniously together with another note. "The perpetual turning of a wheel is not a vain repetition if, at each revolution, it is carrying the vehicle that much nearer to the goal." So the idea of progress, rejected at the beginning, is vindicated at the end. The movement of history is both cyclical and progressive; in one word, it is spiral. An attractive idea—but one that is not borne out by Toynbee's own analyses. Aside from the question as to the precise meaning of the forward or upward direction (the unsolved question of vertical analogy), where is, on Toynbee's own showing, any evidence of progress? Civilizations have advanced beyond both primitive societies and arrested civilizations. This we may take as an established fact. But that there is progress from civilization to civilization as the simile of the forward-rolling wheel would suggest—this, far from being proved, is explicitly denied by Toynbee. He compares his twenty-one civilizations with chariots that started the race at the same point near the entrance, but none of them has as yet gained the exit. And not only the points of departure, he holds, but also the points of farthest advance lie close together. Consequently, the ideas of a virgin ground ahead, untouched as yet by any wheel, or of an exit as the terminus of the race, are arbitrary assumptions, pleasant to consider but unsupported by facts and at variance with the "elemental rhythm" as recorded by Toynbee himself. By his own admission the Greek, beginning to lose out in the fifth century B.C., had not advanced appreciably beyond the Egyptian whose "time of trouble" was upon him by two millenniums earlier, and we, the sorely tried heirs of Western civilization, have not advanced beyond either of the two. The wheel revolves but it fails to roll forward. Of the two notes, the grandly monotonous one has an authentic ring, whereas the other soaring note seems the interpolation of a well-meaning author.

If this analysis is correct, the comforting words addressed by the author to his worried contemporaries must sound hollow, and

it is gratifying to note that he himself appears to set little store by his attempts at prediction. In fact, anyone trying to act on Toynbee's diagnosis will find himself confronted with perplexing alternatives. There is first the tentative appraisal of Soviet Russia as the "creative minority," getting ready to solve our problems for us. Shall we help them by becoming atheists and joining the Communist Party? Again there is the appeal to the most "etherealized" of all responses which can possibly be made to our present troubles, a humble spirit and a contrite heart (p. 554). Shall we then turn Christians and prepare the society of saints rather than the overthrow of capitalism? Is this the "exit" with the uncrossed threshold, "the point of intersection of the timeless with time," to quote once more T. S. Eliot?

Applying Toynbee's categories to his own work we find it bearing out its author's thought in two different ways. Under the challenge of a great historical trial, a keen and sensitive mind is stimulated into a creative effort which far transcends the scope of conventional historiography. But in so testifying to stores of unexhausted vitality, the response also reveals the "schism in the soul," the tragic mark of a society in decline. As Hegel before him so Toynbee undertakes to re-write St. Augustine's principal work by interpreting the City of Man as the City of God *in statu nascendi*. In both cases the result is a magnificent failure. One can hardly confer a greater compliment on Toynbee than by making this comparison.

Carried away by Toynbee's example (a case of mimesis) we may summarize our critical assessment in a philosophical allegory entitled *The Conversion of Clio*. "Clio, a haughty figure of savage beauty, stood at the bar of inquisition. 'Confess Christ!' the Lord President of the Holy Office demanded as he had done seven times before. Deadly silence. 'Apply the thumbscrews.' The order was given in a tone of mental anguish, and the torture had hardly begun, when the inquisitor stopped it: 'Christ be praised, she has confessed.' Yet those around had heard only an inarticulate sound almost inaudibly breaking from the lips of the woman. But the trial was over and the assembled people intoned the *Te Deum*. At this moment the miracle occurred. The heathen woman, long defiantly silent under examination, now raised her voice and joined the others in the praise of God. Her voice, it is true, was uncommonly throaty and deep-pitched, and even her words seemed to vary slightly from the accepted text of the Latin hymn. But all agreed that never before had God's glory been sung with a fuller harmony."

HELMUT KUHN

BOOK NOTES

Systematic Politics. CHARLES E. MERRIAM. Chicago: University of Chicago Press. 1945. xiii + 349 pp. \$3.75.

Because of its scope and organization Professor Merriam's *Systematic Politics* suggests comparison with the classic work of Aristotle on the same subject. The two men have, indeed, much in common. They share much the same temper and outlook, and, in a broad sense, their methods and values agree with one another. Despite the intervening period of over two thousand years Aristotle would not have had much trouble incorporating the specific factual conclusions included in Professor Merriam's book. They differ, however, in that Professor Merriam's work is much more pervaded than is Aristotle's by the sense of history, of dynamic interactionism, and of functional relativity in social processes. This contrast is very striking and serves as documentary evidence for those who have developed the thesis of the contrast between Greek and modern society in these terms. It would be hard to reconcile Aristotle's perspectives with Professor Merriam's faith in creative evolution and progress for which he finds evidence throughout the histories of societies and which he regards as crucial to any understanding of political phenomena and indeed necessary to the understanding of nature in general.

It would be a genuine pleasure to report that we had here in this book a classic of the same order as that of Aristotle's which could be said to sum up and to integrate on a philosophical level the political wisdom of our time. Unfortunately this is not the case. Professor Merriam has not written a book in political theory or one that might be called genuinely philosophical if by these phrases we mean a thorough analysis and synthesis of the fundamental assumptions, meanings, and values of some selected domain of experience. The book abounds in philosophical assumptions and insights, but it is not philosophical. It is better characterized as an encyclopedic, empirical survey and summary of the results and problems of contemporary political science.

Systematic Politics is catholic in scope. It surveys not only the data of political science as such, but it includes the relevant conclusions and materials of all the sciences in so far as they have a bearing upon an understanding of man's political activities when viewed "in the context of the total physical, economic, and social scene." The inclusion of relevant materials drawn from psychology, anthropology, economics, jurisprudence, history, biology, and geography; the attempt to approach the problems of political behavior contextually; the inclusion of structural and functional analyses of

the data, of empirical findings and theoretical analyses of both special and general political problems, constitutes a tremendous undertaking. The prospectus which Professor Merriam gives in the Introduction barely suggests the wealth of material surveyed and classified in the volume.

My study falls under several main heads. It begins with the foundations of politics, including the developing social and material bases. The ends or purposes of government then follow and the typical governmental problems and services. Then comes the consideration of the tools and skills of politics, both in general form and in specific enumeration. After this comes a discussion of the organs of government, dealing with the general theory of organization, with headship, with conciliar organs, organs of adjudication, and organs of management. Informal government is next considered, including here custom, revolution, public opinion, suffrage, elections, and parties. Next I consider politics with reference to stability, on the one hand, and change, on the other, dealing with conservatism and radicalism, with invention and change, and with the relationship of government to scientific advance. Then follows an examination of the types of the interrelationship between political societies leading us to the emerging jural order of the world. From there I turn to a consideration of the historic trends of politics, following the categories already set up. And, finally I deal with what the future of government might be—the next stages in the evolution of political society. [P. xi.]

The inclusion of so much in one volume, a task that justifies many more volumes and a corps of scholars, had to be paid for. It was paid for by substituting a unity of classification and arrangement for genuine philosophic integration. What could properly have been the inner structure and core had to be converted into an external scaffolding. Students of political science will be grateful for and will use this encyclopedic accomplishment, but they will miss that philosophic type of synthesis that is the characteristic mark of the great political treatises of western culture.

E. N. G.

Tour d'horizon philosophique. MATILA C. GHYKE. Paris: Librairie Gallinard. 1946. 197 pp. 150 fr.

Contemporary metaphysics, ethics, religion, aspects of science, art, and politics are all surveyed and evaluated in this brief volume. To embrace so many theories even fleetingly, is an accomplishment, and the author's popular summaries and his idealistic conclusions will doubtless appeal to many readers.

The main contention of the book is that materialism is incapable of explaining philosophical, artistic, or religious activity and that it has been refuted or superseded even in its own stronghold, by the advance of modern science. Positivism and phenomenalism are also dismissed. Bergsonian subjectivism is in a much better position to explain the activity of the spirit and the intersubjective

understanding essential to science, because it gives due importance to the "me." Modern developments in mathematics, logic, and physics persuade the author that Pythagoreanism has been vindicated while mechanistic reverses in the field of biology convince him that vitalism is now the only alternative. He argues, for example, that Heisenberg's principle of indeterminacy and the Second Law of Thermodynamics both deal fatal blows to mechanistic materialism. His conclusion is that "modern idealism (or spiritualistic monism), Pythagoreanism and modern science (mathematical physics, which is only 'mise à la page' of Pythagoreanism, and vitalist biology) may be solidly welded into a new metaphysics, a coherent idealism which represents after more than two thousand years a harmonious development and a justification of the Pythagorean-Platonic conception" (pp. 93-94).

The author's discussion of contrasting "attitudes toward life" follows the common journalistic pattern, distinguishing between individualist, collectivist, and totalitarian attitudes. The author, of course, prefers the first to the second, because all socialism develops bureaucracy and irresponsibility, and a free man will prefer risks and insecurity. The remarks about "Soviet collectivism" are commonplace and inaccurate. Historical materialism, it is said, "has adopted a vitalist, if not spiritualist, doctrine" (p. 43).

Professor Ghyke's objections to materialism, where they are valid at all, apply only to eighteenth-century materialism. The recent revolutionary developments in the physical sciences have also been noted by materialists, and their theory has evolved to meet new requirements. The author gives no good reason, though he quotes sentences from outstanding authorities, for supposing that recent changes in physical theory favor idealism. The idealist can not prove his case merely by pointing to paradoxes or difficulties, which crop up in science at a given time, for they may result from the *kind* of materialist assumptions or analyses which are current at that time. Experience shows that such difficulties are more frequently resolved by new, and more suitable, materialist assumptions and constructions, than by recourse to a modernized Platonism or Pythagoreanism.

The author does well to bring up again the old problem of reconciling entropy with the apparently reverse process of energy accumulation in plants and animals, but the conclusion he draws from this difficulty, that the "transcendence of life" is decisively proved thereby, and "the edifice of classic materialism brutally demolished," is sudden and unconvincing. Professor Ghyke has his vitalist answer, but there are also materialist explanations. It may be, for example, that in certain areas of the universe (plants

and animals) energy is being accumulated, whereas in the universe as a whole, energy is being constantly dissipated. Joseph Needham has suggested another and better explanation: When the physicist says that "organization" in the world perpetually decreases, he does not contradict the biologist who says that "organization" in evolution constantly increases, because they mean something different by the term "organization." If the physicists had used the expression "increasing mixed-up-ness," instead of "decreasing organization," the confusion might not have arisen. It seems pretty clear, in any case, that decreasing order in the universe and increasing organization in evolution are not incompatible, and could occur simultaneously in one process. The advantages of this kind of analysis over Professor Ghyke's vitalist solution are conspicuous. It is not only that no one knows exactly what Bergson's *élan vital* or Driesch's entelechy means, or how to make any use of them. There is another difficulty apparently overlooked by Professor Ghyke. His view implies that biological processes do not obey the Second Law of Thermodynamics, and this, in view of the well-known wastefulness, i.e., the uneconomic character, of biological processes, would be most difficult to prove.

Materialism has developed and prospered under idealistic attacks for two thousand years, perhaps even more than idealism, and through this perpetual opposition has gained in subtlety and adequacy. The contribution of idealism can not be disputed. The author's insistence upon the uniqueness of the human level, as contrasted with the infra-human and especially the inorganic, is a case in point. His conviction is shared by most modern materialists, the difference being that the materialists prefer analysis of concrete levels of organization to an over-all principle such as *élan vital*. The regret occasioned by the present book is not its anti-materialism, but its failure to take account of the development of materialist theory.

V. J. McG.

Look To This Day. Selected Writings. EDWIN DILLER STARBUCK.
Los Angeles: University of Southern California Press. 1945.
ix + 429 pp.

The staff of the Institute of Character Research at the University of Southern California has assembled and edited some selected writings of Dr. Starbuck. The volume is beautifully arranged and organized around four major emphases, suggested by the titles "Know Thyself," "The Culture of Personality," "The Religion of Humanity," and "The Tools of Culture." There is

a very short section, "Purely Personal," and an Appendix containing some charts and short pieces.

The editors have done both Professor Starbuck and his public a fine service in thus arranging his writings. They show his many-sidedness along with the thread of originality which unites them in his own philosophy of character education. The present writer, though associated somewhat for a time with Dr. Starbuck, had not before come to appreciate the coherence of mind which expresses itself in these many essays.

Starbuck's work exhibits both exploratory and scientific genius with religious reticence and philosophical wisdom. His prose is often lofty and has a marked sage-like quality. Withal it has both intellectual substance and literary charm.

We may lift up two leading ideas in his philosophy of character education which run through much of his writing. The first is that "conduct moves surely in the direction of its dominant imagery . . . , a clean imagination is the true deliverer." On the basis of this premise Starbuck develops an important doctrine of symbols in the development of personality. Closely related to the image-symbol principle is the doctrine of the intimate senses as sources of wisdom. Rejecting the evil inheritance of a "rude cognition-psychology that has overlooked the functions of the lower senses in life's economy as a whole," the author goes on to show that in all matters of art-appreciation and in the interpretations of human relations the "intimate senses" are the higher.

By a wise and judicious methodology of imagery, symbols, and appeal to the intimate senses, he hopes to overcome the basic defects in the biological stuff of which man is made. Chief of these is the "Myness of all experiences." This ingrained egocentricity, this tendency toward non-sharingness, is the soil of all evil. But man can be changed from egocentricity to "sharingness."

The philosophy of religion in whose context Starbuck's philosophy of education is placed may be termed a variety of personal idealism. The profounder thought of man he regards as a self-revelation of the very nature of Reality.

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WALTER G. MUELDER

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THE JOURNAL OF PHILOSOPHY

SOCIAL SCIENCE AND NORMATIVE ETHICS¹

I

THE preoccupation of social science and philosophy with hidden valuations, bias, and subjectivity obscures the fact that currently some value judgments in social studies are intentional normative statements. In social criticism, for example, a value judgment is made when an existing or possible state of affairs, say unemployment, or atomic warfare, is declared desirable or undesirable, good or bad, right or wrong. If planned social control or change is suggested, implicit value judgments are made to the effect that some conditions ought not to be or to exist and that alternative states ought to be or to exist. It is also implied that the change itself ought to be effected. Furthermore, a number of explicit value judgments may be made about the means which are employed to attain a given goal, the goal itself, and the consequences which follow from the attainment of that goal.

The overt intentional normative statements that occur in studies of social planning and social criticism present a different problem from that of hidden valuations, bias, and subjectivity. The problem of the latter is strictly epistemological and the attempt to solve it has resulted in a considerable body of literature called the sociology of knowledge.² On the other hand, since the intentional value judgments are consciously or deliberately made, often conspicuously displayed, and are not suppressed, unconscious, or hidden, it seems that they present a problem in value theory rather than epistemology. It is asserted more and more frequently that social science may solve some of the value problems of our time. This paper attempts to examine intentional normative statements

¹ Read in part under the title "Social Criticism and Scientific Method" at the philosophy meeting of the Michigan Academy of Science, Arts, and Letters, University of Michigan, April 13, 1946.

² Two good examples of this kind of literature are Hadley Cantril and Daniel Katz, "Objectivity in the Social Sciences," in *Industrial Conflict* (First Yearbook of the Society for the Psychological Study of Social Issues), ed. G. W. Hartmann and T. M. Newcomb (New York: Dryden Press, 1939), and George H. Sabine, "Social Studies and Objectivity," *University of California Publications in Philosophy*, Vol. 16, No. 6, 1941.

in several recent social studies and to evaluate their significance for general value theory. First, it may be useful to see intentional social science value judgments in historical perspective.

II

The present concern of social science with criticism and planning, and hence with normative judgments, completes a cycle in the history of its methodology. Modern social science developed out of the various moral philosophies of the seventeenth, eighteenth, and early nineteenth centuries, particularly out of the systems of Natural Rights and Utilitarianism. As branches of the philosophies of the Enlightenment the young social sciences were highly normative and teleological.³ In fact, it is sometimes argued that the central normative and teleological ideas of a *communum bonum* and an "interest of society" still persist in contemporary social science as concealed valuations.⁴ Whether this is true or not, it seems reasonably clear that at least until the end of the nineteenth century social science in America was chiefly reformist theory of social, economic, and political problems such as slavery and others which followed the close of the Civil War. William Graham Sumner, who published in 1873 *What the Social Classes Owe to Each Other*,⁵ Albion W. Small, and G. Stanley Hall began their training with theology. Nearly all social scientists of that generation admitted the influence of Comte, Darwin, Hegel, Marx, and Spencer.⁶

Social science of the century was also naïve about bias and subjectivity. Propaganda for group and class interests was presented as if it were part of the objective data. For example, social scientists concede that most of the literature on the Negro problem was (and is) biased one way or another.⁷ A similar statement doubtless could be made about much that has been written on the American labor movement.

The twentieth-century reaction against the twin tendencies toward ethical theory and hidden bias was a concerted drive to

³ Gunnar Myrdal, *An American Dilemma*, 2 vols. (New York: Harper and Brothers, 1944), p. 1046.

⁴ *Ibid.*

⁵ William Graham Sumner, *What the Social Classes Owe to Each Other* (New York: Harper and Brothers, 1920).

⁶ For biographies which indicate philosophical influences, see Howard W. Odum, ed., *American Masters of Social Science* (New York: Henry Holt, 1927).

⁷ See E. B. Reuter, *The American Race Problem* (New York: Crowell, 1927), pp. 17 and 27; John Dollard, *Caste and Class in a Southern Town* (New Haven: Yale University Press, 1937), pp. 33-41; and Myrdal, *op. cit.*, pp. 1035-1041.

model the social sciences along the lines of the socially detached natural sciences. Ridding social science of subjectivity resulted in the body of literature sometimes called the sociology of knowledge and it is still a favorite topic.⁸ The movement for the elimination of intentional ethical judgments resulted in a policy to which Lévy-Brühl gave the classic statement. A science, said Lévy-Brühl, can not be a science in so far as it is normative. Its theoretical constructions cease to be scientific whenever they introduce practical moral or esthetic standards of value. These values are subjective and as such they can not be measured or demonstrated. Therefore, any theoretical constructions which involve presuppositions as to values are part of a realm to which true science is a stranger.⁹

The practice of "complete detachment," "impersonal objectivity," and "aloofness from the strife of rival values" proved to have some disadvantages for social science. In Germany, where the *Deutsche Gesellschaft für Soziologie* had earlier banished from their programme all question of value and sought to restrict themselves to the theory of social happenings,¹⁰ the social sciences were stripped of their intellectual freedom by Nazi power politics. In Italy, professors-in-uniform were "forced to betray their heritage by solemnly declaring the Italian population to be of Aryan origin."¹¹ Here in America economic depression, unemployment, industrial conflict, and increased minority group unrest affected the objective, unconcerned social scientist as well as other people.

In 1939 Robert S. Lynd challenged the wisdom of social science's position. He argued that if the social scientist, after intensive study of a problem, avoids evaluation of his data, "he invites others presumably more biased than himself—e.g., the National Association of Manufacturers, the American Federation of Labor, the advertising man, the American Legion, and so on—to thrust upon the culture their interpretations of the meaning of the situation."¹² Rather than allow the culture to drift dangerously, swayed here and there by casual values tossed up by com-

⁸ See footnote 2.

⁹ Lévy-Brühl, *La Morale et la science des mœurs*, 5th ed. rev'd (Paris: F. Alcan, 1913), ch. ii, esp. pp. 11-14. Quoted by W. Y. Elliot, "The Possibility of a Science of Politics: With Special Attention to Methods Suggested by William B. Munro and George E. G. Catlin," in *Methods in Social Science*, ed. Stuart A. Rice (Chicago: University of Chicago Press, 1931), p. 70.

¹⁰ Morris Cohen, *Reason and Nature* (New York: Harcourt, Brace & Co., 1931), p. 349.

¹¹ Robert S. Lynd, *Knowledge For What?* (Princeton: Princeton University Press, 1939), p. 1.

¹² *Ibid.*, pp. 185-186.

peting groups pretending to speak for the public interest, Lynd advocated that "social science should take the wheel." For, he declared, "Either the social sciences know more than do the 'hard-headed' businessman, the 'practical' politician and administrator, and the *de facto* leaders of the culture as to what the findings of research mean, as to the options the institutional system presents, as to what personalities want, why they want them, and how desirable changes can be effected, or the vast current industry of social science is an empty façade."¹³

Social science does not think that it is an empty façade, for social planning and social criticism are currently approved parts of social studies. Intentional normative statements have thus reappeared in social science and the cycle in methodology is complete.

III

The vigor of the new invasion of the field of values by social scientists suggests at first that they intend to work at the problem from the point of view of scientific method and not within the traditional philosophical frames. It is implied that the philosophers of value have now to contend with the scientists of value. In the past philosophers have sometimes cleared up difficult points by going to the sociologist, the psychologist, and the anthropologist. If these men now come deliberately to the field of values, it seems reasonable that some of the confusion will be cleared away even if none of the problems are immediately solved. A further conjecture, based on the fact that some former philosophical problems, e.g., the atom, space, time, perception, mind, society, etc., are now best handled by scientific techniques (although philosophers are reluctant to relinquish their hold), is that part of the field of values can be subsumed once and for all time under the various social science disciplines.

This is an encouraging prospect. However, analysis of intentional value judgments found in social science studies reveals that while many of them make a contribution to the study of ethics, they do not touch some of the more difficult problems of value theory. In ethics or esthetics there appear to be two distinct kinds of judgments: (a) normative or evaluative statements which assert that some things are good or bad, right or wrong in terms of certain norms or standards, whether acknowledged or unacknowledged; and (b) statements about the norms or standards themselves, usually justifying them in terms of a definition of the value predicates. If we limit our investigation to the so-called moral values,

¹³ *Ibid.*, p. 186.

we may say that judgments of the first type are propositions in normative ethics and that propositions of the second type are propositions in ethical theory.¹⁴

The propositions of the first type presuppose the propositions of the second type. Thus, if one asserts that unemployment is bad or that freedom is good, he is making evaluative judgments on the basis of a set of propositions, either acknowledged or unacknowledged, that constitute his ethical theory. A clear example of an acknowledged relation of this kind is the judgment that freedom is good because it is consistent with democracy. The propositions which assert that democracy itself is good are the judgments in ethical theory provided that democracy is treated as an ultimate and not justified or defined in terms of another set of "higher" principles, say Christianity or natural law. Propositions in ethical theory always deal with first principles, the nature of the value experience itself, and hence with the definition of the value predicates.

The relation between the propositions of ethical theory and the propositions of normative ethics seems to be the logical relation of necessary implication, "a connection of meaning which legislates for fact." The propositions of ethical theory necessarily imply the propositions of normative ethics in the sense that the latter are so related in meaning to the former that in virtue of this connection of meaning p true and q false does not occur in the world of fact.¹⁵ This suggests that in some degree the propositions of normative ethics are propositions of fact and are true or false in an empirical as well as a logical sense. They are therefore capable after a fashion of empirical verification.

The distinction between propositions of normative ethics and propositions of ethical theory may be considered as a rough operational device to facilitate the examination of intentional value judgments found in social studies of criticisms and planning. There is a more familiar dichotomy which seems at first that it might very well be used as a tool instead of that above. This is the distinction between propositions about intrinsic or essential values and propositions about extrinsic or instrumental values.¹⁶ It does not appear that the distinction can be entirely discarded

¹⁴ For this general distinction between normative ethics and ethical theory, I am indebted to the Ethics lectures given by Professor R. B. Perry at Harvard University in 1941.

¹⁵ Cf. Ralph M. Eaton, *General Logic* (New York: Charles Scribner's Sons, 1931), pp. 231-234.

¹⁶ Dewitt H. Parker, *Human Values* (New York: Harper and Brothers, 1931), Appendices I and II; *Experience and Substance* (Ann Arbor: University of Michigan Press, 1941), pp. 293 ff.

although pragmatists have sought to do so.¹⁷ Briefly stated, the difference between these two types is that a judgment of intrinsic value is a non-elliptical proposition of the form "*X* is good," whereas a judgment of extrinsic value is of the sort "*X* is good, being conducive to *Y*, which is already agreed to be good." As Arthur Pap explains it, "what distinguishes the judgment of instrumental value '*X* is good, being conducive to *Y*' from the purely causal judgment '*X* is a means for *Y*' is that it is equivalent to the logical product of the latter judgment and the judgment of intrinsic value '*Y* is good.' The concept of instrumental value thus logically involves the concept of intrinsic value."¹⁸

It is clear that one can draw interesting parallels between propositions of normative ethics and propositions about extrinsic or instrumental values on the one hand and propositions of ethical theory and propositions about intrinsic or essential values on the other. However, it is likewise obvious that both normative ethics and ethical theory can each contain propositions about both intrinsic and instrumental values. The first distinction has, therefore, the wider generality and is actually the more useful in dealing with the value judgments found. Yet we shall pay some attention to the way in which social scientists deal with propositions about instrumental values, for it seems that philosophers have agreed generally that there is a possibility of their empirical verification.¹⁹

IV

Most value judgments in social science studies today, whether in criticism or planning, are propositions of normative ethics. The chief reason for this seems to be that they are introduced to serve strategic ends. Social science admits an interest in creating or guaranteeing a society favorable to the continuance of scientific pursuits. In a troubled world it naturally seizes upon the existing ideology that it thinks has the least disadvantages for "objective" social science and which is most likely to continue. Thus in America social scientists usually make normative judgments in terms of the democratic ethics. Since the democratic ethics is by postulate agreed to be good, the judgments are of the following

¹⁷ For example, Ray Lepley, *Verifiability of Value* (New York: Columbia University Press, 1944), pp. 24 and 41. His argument is refuted in the critical book reviews by Edward N. Barnhart in *Psychological Bulletin*, Vol. 42 (1945), pp. 123-124, and Dewitt H. Parker in *The Philosophical Review*, Vol. 54 (1945), pp. 79-83.

¹⁸ Arthur Pap, "The Verifiability of Value Judgments," *Ethics*, Vol. 56 (1946), pp. 184-185.

¹⁹ See the works cited in footnotes 17 and 18.

sort in the instance of criticism: *X* is good because it is democratic or consistent with democratic principles and *Y* is bad because it is not democratic or is inconsistent with democratic principles.

It is also the case that the necessary implication may be stated in factual rather than in logical terms and the judgment will be of the sort: *X* is good for democracy, or leads to democracy, or causes a democratic state to exist and *Y* is anti-democratic or undemocratic, or is bad for democracy, or prevents a democratic state from existing.

Now it is immediately clear that the decision to use a given ethical system as a starting point may be based on nothing more than cultural conditioning. One might predict that intentional ethical statements in the writings of contemporary Russian or English social scientists would follow the same logical pattern, but with different intrinsic value postulates, say those of communism or socialism. Yet there emerges from such scientific activity, even if none of it is concerned with pure ethical theory or the analysis of intrinsic value, some contribution toward a solution of the philosopher's problems. Let us examine several contrasting examples of social criticism and planning at this level to see what their implications for general value theory may be. In these first social studies all of the value judgments are statements in normative ethics.

In his *Psychology of Social Movements*²⁰ Hadley Cantril expresses concern about the social currents which have recently troubled our American culture. He admits a purpose "to influence specific value judgments concerning the merits of various social movements." Further he asserts that his own "value frame has as its goal the creation of a society where maximum economic and cultural opportunity will prevail for every person, where both science and the individual will have more freedom. Such a point of view might be called a real democracy." From this viewpoint Cantril concludes that "the principles of some social movements are wrong, those of others more nearly right."²¹

It is clear that Cantril does not concern himself with the nature and verification of intrinsic values. All of the normative conclusions in his book, aside from the axiological postulates which are never justified nor defended, are propositions about normative ethics. When he concludes that the Oxford Group movement or Buchmanism, for example, is bad or wrong, he states that it is anti-democratic.²² In the same manner, although it is really a

²⁰ Hadley Cantril, *The Psychology of Social Movements* (New York: John Wiley and Sons, 1941), p. vii.

²¹ *Ibid.*, p. xiii.

²² *Ibid.*, p. 168.

problem in value theory rather than normative ethics, he expresses his disapproval of the Nazi party movement only by implying that it is undemocratic. The end values of democracy, maximum freedom and opportunity for every person, are postulated initially as absolutes and no analysis is made of them.

However, it appears significant for the study of ethics in general that Cantril's judgments about normative ethics, stated as they are within the context of scientific research, seem to be either true or false in the same sense as any of his conclusions about social-psychological facts.

Gunnar Myrdal's *An American Dilemma* is unique in that it is a study replete with value judgments in terms of the American democratic ethics, yet Myrdal himself is not an American. The work of the famous Swedish social scientist provides, therefore, an excellent contrast to that of Hadley Cantril. In *An American Dilemma*, Gunnar Myrdal seeks to evaluate the "actual life conditions of the American Negro people"²³ or their "caste status"²⁴ in terms of the "American creed of liberty, equality, and fair opportunity for everybody."²⁵ By demonstration of empirical fact Myrdal proves that because of segregation and discrimination, Negroes do not have equality of justice,²⁶ equality of opportunity,²⁷ nor equality of freedom.²⁸ He draws a conclusion, then, that caste (formalized segregation and discrimination), like Cantril's Oxford Group movement, is bad. Caste is bad because it is undemocratic. It is undemocratic because it does not lead to the goals of liberty, equality, and fair opportunity for everybody.

However, it must be emphasized that Myrdal makes a very important reservation about his normative statements. He writes:

In approaching the Negro problem as primarily a moral issue of conflicting valuations, it is not implied, of course, that ours is the prerogative of pronouncing on *a priori* grounds which values are "right" and which are "wrong." In fact, such judgments are out of the realm of social science, and will not be attempted in this inquiry. Our investigation will naturally be an analysis of morals and not *in* morals. In so far as we make our own judgments of value, they will be based on explicitly stated value premises, selected from among those valuations actually observed as existing in the minds of the white and Negro Americans and tested as to their social and political relevance and significance. Our value judgments are thus derived and have no greater validity than the value premises postulated.²⁹

²³ Myrdal, *op. cit.*, p. xlv.

²⁴ *Ibid.*, p. 669.

²⁵ *Ibid.*, p. xlv.

²⁶ *Ibid.*, pp. 523-534.

²⁷ *Ibid.*, pp. 573-604.

²⁸ *Ibid.*, pp. 605-688.

²⁹ *Ibid.*, pp. xlvii-xlviii. *His italics.*

Myrdal underscores this reservation in his methodological notes on facts and valuations in the appendix where he asserts that "alternative sets of value premises for social studies would be most appropriate."³⁰ He adds that "if for reasons of practicality only one set of premises is utilized, it is the more important that the reservation is always kept conscious: *that the practical conclusions—and, to an extent, the direction of research—have only hypothetical validity* and that the selection of another set of value premises might change both."³¹ Finally, Myrdal insists that the responsibility of the social scientist is to be objective,³² not be a moral philosopher,³³ and consequently that the chief reason for making value judgments at all is merely a precaution taken to avoid hidden valuations and biases.³⁴

Several things emerge from this brief examination of Myrdal's work. First, he is not committed to the democratic ethics in the same way as Hadley Cantril. In fact, he boldly suggests alternative value premises, conceivably those of socialism, communism, or fascism. Second, his distinction between the analysis of morals and the analysis in morals seems to be exactly the same distinction which we have drawn between normative ethics and ethical theory. Third, it is clear that he harks back to the days of Lévy-Brühl in the matter of not wanting to deal with the ultimate value problems, say the superiority of democracy versus fascism. Yet, and this is final observation, it is reasonably apparent that he has as social scientist incorporated within the framework of a study conducted according to scientific methodology value judgments of normative ethics that are empirically verifiable in the same way as other propositions of fact.

Our third and final example of social studies containing intentional value judgments of normative ethics is taken from a study in social planning. It should prove particularly interesting, for planning introduces the problem of the way in which normative judgments may be applied to means as well as ends. In 1941-1942 the department of psychology at Harvard University conducted a seminar in psychological problems of morale. The findings of the seminar were released in mimeographed form for the use of morale-building agencies, both private and governmental. Thus, the primary aim of the seminar was to produce a program for action rather than to contribute to social science theory. Two problems

³⁰ *Ibid.*, p. 1045.

³¹ *Ibid.* His italics.

³² *Ibid.*

³³ *Ibid.*, pp. xlvii-xlviii.

³⁴ *Ibid.*, p. 1045.

which had to be faced realistically were these: (a) If human nature is everywhere basically the same, and if the requirements of social cohesion (which is the basis of morale) are essentially similar from culture to culture, whether totalitarian or democratic, how does one set up criteria for differentiating democratic morale from totalitarian morale? (b) If the effective methods of persuasion or propaganda (which is the basic ingredient of morale building) are essentially similar in all societies, how does one distinguish a "good" Nazi propaganda program from a "good" American or democratic propaganda program? In brief, we had to choose our goals and also the means to achieve those goals in terms of the ethics of the democratic philosophy. It also became clear to the group that the concept of instrumental value was also involved since the means had to be "good" in the sense of being effective as well as "good" in the sense of being democratic.

Professor Allport, who was one of the leaders of the seminar along with Professor H. A. Murray, has published his own solution to the value problems stated above.³⁵ Professor Allport first ascertained the unique features of democratic morale (or group co-operation or cohesion), none of which are present in totalitarian morale, by an analysis of several of the numerous statements of the democratic way of group living. These were the goals or ends of the programs of action. The complex problem of establishing criteria for testing concrete democratic morale-building programs in terms of their goals, the effectiveness of their methods (instrumental value), and the ethical quality of the methods (normative intrinsic value), was solved by blending psychological principles and the normative standards of democracy. Professor Allport's results were eleven "ethical-practical rules" or "psycho-ethical criteria" for judging any given morale-building (or propaganda) program.

The following rules are typical of the total set:

(a) A program is good if its aim and practice are intended to further the well-being, growth, and integrity of each individual personality.³⁶

(b) A program is good if it stresses the basic tenet of democracy that all persons have equal rights to the pursuit of happiness, to liberty, and to life. . . .³⁷

³⁵ Gordon W. Allport, "The Nature of Democratic Morale," in *Canadian Morale*, Second Yearbook of the Society for the Psychological Study of Social Issues, ed. Goodwin Watson (New York: Houghton Mifflin Company, 1942), pp. 3-18.

³⁶ *Ibid.*, p. 8.

³⁷ *Ibid.*, p. 9.

(c) A program is good if it expresses the majority will of the people, and if it enhances the acceptance of the principle of majority rule.³⁹

If we omit the question of instrumental value or psychological effectiveness for the moment, we can note that the ethical part of the rules is in each case merely an elaboration of the already accepted democratic philosophy. As ethical rules they represent the "given" of ethical theory. For normative ethics they are true or false only in so far as it can be questioned whether they represent the ideals of democracy. Since in the above three it seems unlikely that there is any doubt whatsoever as to their legitimacy, it can be assumed that they are not questioned. They are unanalyzed absolutes and as such they are axiomatically true for the social scientist who is operating in normative ethics. However, Allport clearly means that an ethical evaluation based on these rules of any concrete morale-building program and specifically of the methods employed is true or false in an empirically verifiable manner. Thus specific judgments of the sort "government program X is good" or "movie industry program Y is bad" are true or false in the same sense as other so-called propositions of fact.

From the foregoing analyses of the social studies of Cantril, Myrdal, and Allport, it appears that social science has invaded successfully a portion of the field of values. The propositions of normative ethics have been incorporated within the context of social science research, and it is hoped that they will remain there. At the level of normative ethics, i.e., operating within a given value system, it is the social scientist and not the philosopher who can state best the conditions under which the value concepts of "rightness" and "wrongness," "goodness" and "badness," are correctly applied to conduct.

V

There remains for philosophy and science alike the perennial problem of the verification of the ultimate judgments of ethical theory. This, of course, is the central problem of value theory. The verification of propositions of normative ethics is only of local concern. The social science solution of that problem has merely cleared the way for an approach to the verification of the judgments of ethical theory which are of universal concern. Social criticism meets the wider problem squarely when the ultimate worth of a given value system is itself questioned or when choice is made between two conflicting value systems. Is democracy in

³⁹ *Ibid.*, p. 11.

itself intrinsically good? Is socialism intrinsically better than communism? Is democracy intrinsically better than fascism? Pure ethical theory rules out an appeal to higher codes, say Christianity or Judaism, for all codes are of the same order when one deals in analytic value theory. The answer to the above questions must involve an attempted solution of the two most perplexing problems of value theory: What is the nature of the value experience itself? and Is there a verifiable scale of value experiences?

The initial problem for the social scientists who wish to work in ethical theory as scientists, thereby preserving their scientific chastity, is whether the above problems can be dealt with by the techniques of scientific methodology. They must attempt to work in the science of values and not in the philosophy of values. Thus the problem for social science is to discover or formulate universal value principles which are verifiable in some sense within the framework of established scientific procedures. We may recall that Gunnar Myrdal dared not approach the problem. However, other scientists have approached the problem. I shall consider them in a later paper.

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TWO THEORIES OF TRUTH: THE RELATION BETWEEN THE THEORIES OF JOHN DEWEY AND BERTRAND RUSSELL

IT is a curious and notable fact that two of the most important and influential philosophers of our time, both ardent champions of scientific intelligence in the conduct of human affairs, should find themselves in seemingly complete disagreement on a very fundamental philosophic problem. This difference has to do with the nature of truth. It is curious, not only because of the more general agreement to be found in the writings of Dewey and Russell on social, economic, political, and "pure" philosophy, but more especially because of what might be described as the temper and principal tenet in the philosophy of each: a faith in the importance of science—in scientific method in philosophy as well as in all domains of human inquiry. It is a notable difference not only because of its intrinsic importance to philosophy but because of its wider effects. For in spite of the general agreement and the scientific attitude that permeates the philosophy of each, this major difference has, in part, seemed to have led to the creation of two conflicting schools of thought in present-day philosophy.

The exchanges between Dewey and Russell on the problem of truth will take their place as some of the more important highlights of contemporary philosophy when its history is written.

In view of this disagreement between Dewey and Russell as to the nature of truth, the question naturally arises: are these differences irreconcilable? There are reasons for thinking them not impossible to overcome, indeed for thinking that in at least one important respect these two theories are closely related to one another. To substantiate this point of view constitutes the purpose of the following paper.

I

Before proceeding to the issues just mentioned, however, some word must be said by way of explanation about each of these theories. Although space does not permit an extensive exposition of them, the reader is, no doubt, familiar with the latest writings of Dewey and Russell in which each has presented his theory to date in its most comprehensive form. The following remarks, therefore, shall be intended only as briefly indicating the main features of each theory in order to clarify as much as possible the discussion which follows.

Properly speaking Dewey's theory of truth is an abstraction on our part; truth and falsehood for Dewey are related aspects of a larger context which constitutes the pattern of inquiry. Of the five levels or stages of inquiry (the indeterminate situation, the institution of a problem, the determination of a problem-solution, reasoning, and experiment) truth and falsehood have to do with the final and consummatory phase. Generated out of a problematic situation the process of "*inquiry is the controlled or directed transformation of an indeterminate situation into one that is so determinate in its constituent distinctions and relations as to convert the elements of the original situation into a unified whole.*"¹ The final stage (experiment) is reached when a unified plan of action has been drawn up and is ready to be tried out. The experiment proceeds according to the demands set by the original difficulty. The success of the solution to be tried depends on just how comprehensively an idea or hypothesis contributes to the resolution of this difficulty when it is acted upon. The truth (or warranted assertability) of a hypothesis depends on those consequences that occur when it is acted out; when these consequences are such that the original difficulty, which instigated the inquiry, is solved or answered, the hypothesis is true—true within the context of the conditions and operations of that particular inquiry. If the

¹ *Logic: The Theory of Inquiry*, pp. 104-105.

consequences lead us astray, if they fail to clear up the original difficulty for which the hypothesis was put forth as a possible solution, then that hypothesis is false.

The requirements for a proposition or hypothesis being true are two: (1) the proposition must be warranted, i.e., must be a product and outcome of an inquiry which has been taking place and directed to solving a given problem; (2) it must solve, settle, answer the particular problem for which as a possible solution the hypothesis or proposition was put forth. Situated as extremes in the pattern of finished inquiry we have: (a) the problematic conditions which generated or gave rise to inquiry; and (b) the hypothesis that has been found to solve the problem, and hence terminates inquiry. Between the two sets of events (a) and (b), a relation is said to hold. To the originally disturbed conditions (a), there *responds* (or corresponds) a set of conditions (b) which satisfy, settle, solve the difficulty. Hence Dewey writes:

My own view takes correspondence in the operational sense it bears in all cases except the unique epistemological case of an alleged relation between a "subject" and an "object"; the meaning, namely, of *answering*, as a key answers to conditions imposed by a lock, or as two correspondents "answer" each other; or, in general, as a reply is an adequate answer to a question or a criticism—as, in short, a *solution* answers the requirements of a problem."²

Truth, for Dewey, then, refers to ideas, hypotheses, or propositions, etc., which, warranted by some inquiry, *correspond* to a problematic situation, specifically in the sense of solving or answering the particular problem which originally generated that inquiry.

Russell also holds a correspondence theory of truth, but "correspondence" in the more classical sense. It is a theory emphasizing the relation between statements or assertions and empirical facts. "It is snowing" is true if it is snowing. It is a theory primarily concerned with an alleged causal relation between the environment which gives rise to words and statements, and words and statements as they express (or report) facts about the environment. When statements are true they express conditions about other statements or about the environment which correspond to the conditions that are actually present at the time the statement is made. A statement or belief is true if what it is talking about possesses those characteristics which the statement asserts it to possess. It is in this sense that Russell says the statement corresponds to the facts. The correspondence theory of truth, he says, is one "according to which the truth of basic propositions depends upon their relation to some occurrence, and the truth of other propositions depends upon their syntactical relations to basic

² *Problems of Men*, p. 343 (italics in the original).

propositions."³ However, since Russell says he is not willing to confine his theory of truth only "to those propositions asserting what I now perceive or remember," he recognizes "the possibility of events that are true although there can never be any evidence in their favour."⁴ And he says: "since an experience is a fact, verifiable propositions are true; but there is no reason to suppose that all true propositions are verifiable."⁵ Truth, then, in Russell's theory is a characteristic of the relation between beliefs or assertions, and the facts which beliefs or assertions express. When that which assertions are about possesses those characteristics that are formulated in the assertions, the assertions are true; what they assert, then, is said to *correspond* to fact. Finally, when a proposition asserts something about certain facts, which the facts contradict, then that proposition is false.

As both Dewey and Russell claim that their theories are correspondence theories of truth, it is evident that whatever the relation between these theories may be, it will depend for the most part on the meaning of "correspondence" as it is employed in each theory. In what follows I shall consider first (in part II) what has been regarded by Dewey and Russell as the main differences between their two theories, and, lastly (part III), the way in which these theories are related.

II

From the writings of these two philosophers what does each regard as the major difference between them with respect to their theories of truth? From Dewey's writings it appears that the major issues are those of: (1) the underlying conceptions of experience; (2) Russell's conception of correspondence.⁶ (3) To Russell, on the other hand, the difference seems to be primarily that Dewey stresses the importance of the consequences of ideas as determining their validity, whereas he is concerned with the antecedent facts that cause beliefs and ideas.⁷ We shall discuss each of these points in the order just stated.

³ *An Inquiry into Meaning and Truth*, p. 362. Basic propositions being sentences describing a single perceptive occurrence; the perceptive occurrence being the "verifier" of that sentence. "The 'verifier' is defined as that occurrence in virtue of which my assertion is true (or false)," p. 291.

⁴ *Op. cit.*, p. 263.

⁵ *Op. cit.*, p. 383.

⁶ "The difference between us has its basic source in different views of the nature of experience, which in turn is correlated with our different conceptions of the connection existing between man and the rest of the world," Dewey, *Problems of Men*, p. 351.

⁷ "The main difference between Dr. Dewey and me is that he judges a belief by its effects, whereas I judge it by its causes where a past occurrence is concerned." Russell, *A History of Western Philosophy*, p. 862.

(1) The philosophic interpretation of experience, in the writings of Dewey, has received a great deal of attention. His theory of experience is the core of his entire philosophy. Russell, however, has devoted relatively little time to an interpretation of experience. And what Russell means by the term "experience" is very different from the meaning Dewey gives the term. Experience for Dewey simply denotes the interaction of an organism with its environment. It is a constant on-going process, the basic flow of life; but a process which undergoes qualitative change. The primitive flow of experience is marked by growth, change, and, in short, *experiences* which the organism undergoes. An experience, for Dewey, is an organized integrated phase "demarked in the general stream of experience from other experiences."⁸

Russell, however, uses the term "experience" sparingly; when he does use it he means by experience, that which is habit forming. "It seems to me," he says, "that an event is 'experienced' when it contributes to the formation of a habit."⁹ It would seem, then, that when Dewey suggests that the main difference between his theory and that of Russell is due to their different conceptions of experience, what is meant is a difference in conceptions of the structure of the world, of the relation of men to the empirical context of their environment. In this respect the difference at first glance would seem to be very large. Dewey's conception of nature as a process of rhythmic flux and change would seem to contrast sharply with Russell's classes of events in compresent orders located in an abstract space-time. A difference as sharp as that between Hegelian and Leibnizian universes. But is this really the case? The difference would rather seem, on closer analysis, to be in the kind of operations that are being employed in describing the world.

Dewey attempts to give an account in biological terms of those characteristics that make up the context of the environment in which organisms are situated. Russell, however, is describing the world by means of a logical terminology and appears to be trying to give an account in a vocabulary sufficiently abstract to serve as a ground for a logical-mathematical explanation of the world. It should be emphasized, however, that because different levels of analysis are employed in explaining or describing certain aspects of a subject-matter, the explanations thus given do not necessarily mean that the over-all conceptions of that subject-matter differ, or are in conflict.

Suppose, for example, we happened to be observing a man in the act of crossing a street. We could describe our observations

⁸ Dewey, *Art as Experience*, p. 25.

⁹ "Physics and Experience," p. 14.

from a biological point of view. We should then proceed to explain an organism in the act of dealing with its environment. If the street were heavy with traffic we might describe the tensions of the organism as it seeks to preserve itself. The environment, we would say, has its friendly life-preserving qualities and its unfriendly elements. The organism strives to stay in the friendly zone (in this case the sidewalk). We might describe the acts undergone in the process of "risking" it to get across the street. When the act is completed the organism has gone through an experience. On the other hand, we might want to give an abstract account of the same occurrence. In this case we might, like Russell, reduce our man to the more convenient set of "events." We would describe cars, sidewalks, etc., as other classes of events. We would also add that these classes of events have different arrangements, one class being termed "man," another class "car." In this region of space-time various classes of events would have certain kinds of relations to one another. Throughout a given period of time some of these relations undergo certain changes. The class of events "man" is observed to change its location in space-time relative to the class of events "car" (and relative to the observer). We could describe the motion of "man" along a set of coördinates located between sidewalk *A* and sidewalk *B* and the street between them. We might, if we were sufficiently clever, be able to discover certain equations of motion to hold between classes of events, e.g., the speed of the man crossing the street from *A* to *B* to be directly proportional to the speed of a car approaching the man, etc.

Enough has been said, perhaps, to illustrate the point. We have described a portion of the world in two different ways. But the difference in the operations or techniques employed and the explanations resulting, does not mean that there were also radically different underlying conceptions of what occurred. That is, the biologist and the logician would not, in the above example, dispute the fact that they were both watching a man crossing a street. I do not mean to imply in what has been said that there are no real differences between Dewey and Russell as to what constitutes the nature of experience. Dewey is right, I think, in pointing out that differences in their conceptions of experience (of the relation of man to nature) give rise to the major philosophic conflicts between Russell and himself. But, as I have tried to indicate, the differences are not necessarily as fundamental as Dewey has implied. Further, because of the very abstract manner in which Russell has formulated his conception of experience, various particular interpretations are possible; and because he has made his views take such a generalized form, specific differ-

ences between his views and those of Dewey as to the nature of experience can be reconciled without seriously challenging the more crucial portions of these two theories of truth. Russell's theory of experience (his "logical atomism") is, in short, an abstract, theoretical, hypothetical analysis, the logical structure of which may be found, if not similar, at least not contradictory to Dewey's concrete, organic, and biological conception of experience.

(2) Concerning Russell's theory of correspondence, Dewey asks two related questions: "How can anybody look both at an object (event) and a proposition about it so as to determine whether the two 'correspond'?"¹⁰ Secondly, Dewey says he wonders "how something in experience could be asserted to correspond to something by definition outside experience."¹¹ It is clear that if Russell's theory does depend upon assertions in experience being related to events outside of experience (experience in Dewey's sense) then the validity of the theory depends on a rather dubious, metaphysic. Taking the first question we shall find that an answer to it is also an answer to the second.

For Russell a proposition is true if it corresponds to one or more events. The proposition, however, as an event itself (i.e., as a physical event in the form of so many spoken sounds, or ink on paper, etc.) should not be thought to correspond to an event. If a proposition is, as Russell says it is, "something which may be said in any language"¹² (and we may here neglect this rather careless definition) what is said to correspond is what is asserted; that is, not the proposition but what the proposition *means*. Private facts and propositions about them of the form: "I am experiencing the sensation of brown," Russell would say, are only verifiable and known to be true by the person experiencing them. But public propositions of the form "this table is brown" are of the more general form: "if you look at (or experience) this table you will experience brownness." If the meaning of this assertion is understood, then those present and hearing it may verify it by observing the table. If they experience brownness, then the proposition is said to correspond to the facts. Hence, one does not attempt to compare an "event and a proposition about it so as to determine whether the two 'correspond'," rather one, on understanding the meaning of a proposition, looks for that event which the proposition is asserting or talking about. If an event is located and has those characteristics which the proposition asserts it to have, then that proposition is known to be true.

¹⁰ *Problems of Men*, p. 352.

¹¹ *Op. cit.*, p. 344.

¹² *An Inquiry into Meaning and Truth*, p. 16.

This, in a very general way, is what Russell means by correspondence. It should be clear that the correspondence about empirical matters is one between the meanings of propositions and the empirical events which propositions express. Hence the correspondence is not between propositions and something outside experience; for we do experience environmental events. It is rather a correspondence between language and those events outside of language which that language designates. We may conclude for the present that the answer to Dewey's objection is that Russell does not mean that propositions should be regarded as corresponding to events outside of experience for their truth.

(3) The third main difference, it will be remembered, between these theories of truth, was one raised by Russell. This was to the effect that he differs from Dewey in judging the truth of a hypothesis or assertion as dependent on the antecedent facts which caused it. Dewey's theory, Russell says, is one concerned with the consequences of a hypothesis as the means for judging its truth. Such an observation, if taken strictly, does an injustice to both theories. For it overlooks Dewey's entire account of inquiry up to the stage of hypothesis formation, as well as Russell's own elaborate account of language structure that follows from those facts that underlie its formation or gave rise to it.

In connection with our immediate problem, the statement of Russell does have some relevance. We can say that in Dewey's theory the term "truth" appears at that stage of inquiry where hypotheses are judged by the degree to which they contribute to the solution of a given problem. In Russell's theory the term "truth" appears when a relation between certain events in the world and statements about those events is being considered. More precisely: the term "truth" for Dewey designates a certain kind of relation between a problem (or problematic situation) and a hypothesis that indicates a plan of action of a character such that it solves, settles, the problem when it is acted out. And this relation is one of correspondence. The term "truth" for Russell stands for the relation between statements and the facts which statements are about. When statements are true (in the sense already mentioned in part I) this relation is one of correspondence. Here we have the issues stated as sharply as possible and it remains to be seen whether or not the term "truth," as it applies to these two kinds of correspondence, designates two mutually exclusive kinds of operations or relations. So far I have tried to indicate that: (a) certain of the most apparent differences between these two theories are primarily differences in the kind of operations preferred in describing and inquiring into a given subject-

matter—differences in technique; (b) regardless of differences in technique, and differences in philosophic interpretations of experience, these differences do not logically necessitate a difference in the specific theories of truth.

III

"Correspondence," as it is used in these theories, has both a general and particular sense. In its general sense the theories are clearly in accord; it is, however, the particular sense of "correspondence" which is important for our purpose and as such it shall occupy us in what follows. First, a word should be said, however brief, about the general sense in which both theories implicitly have "correspondence" in common. In this general sense of correspondence both theories hold that where truth is involved, there is a relation (a correspondence) occurring between theories, propositions, hypotheses, and certain empirical events,¹³ namely, the kind of overall general relation that holds between language and the non-linguistic events of the world; the world outside of language which language describes. For both Dewey and Russell, theories, propositions, hypotheses, in short, any statements which are concerned to make claims of some kind—claims where truth or falsehood are relevant—have a certain kind of relation to empirical phenomena, i.e., that which the statement or claim is about and which determines the truth or falsehood of these claims. This is the general sense of correspondence, the relation that occurs, whenever a statement is true, between the statement as language and the world which the statement is talking about. In this sense of correspondence the two theories are in complete accord.

What is the unique or particular sense in which "correspondence" is used in each theory? In Dewey's theory, we have said, it is used to designate the way in which a solution answers the conditions set by a problem. In Russell's theory it designates the relation holding between assertions and the facts which assertions are about, when those facts possess the characteristics which they are asserted to possess.

Now in view of these considerations I think it can be maintained that in those cases where a correspondence relation has been established between a proposition-as-solution and the problem-to-be-solved (Dewey's sense of correspondence), there is also a correspondence relation between what that proposition asserts and the empirical events which gave rise to that proposition, in virtue of which it is true (Russell's sense of correspondence). Or, put

¹³ The discussion, of course, throughout this paper is concerned with these theories as they are empirical or material theories of truth.

in more general fashion: The particular sense in which *correspondence* is employed in Dewey's theory, holds, or entails, in any inquiry a "correspondence" in the particular sense in which that term has meaning in Russell's theory of truth. In those cases where a proposition is true for Dewey it is also true for Russell.¹⁴ For if, in Dewey's theory, a solution describes or formulates something about the conditions and facts that make up a problem-situation, and certainly a solution must do so if it is a solution, it is clearly saying something about the characteristics of certain specific facts—characteristics which are present among those facts. And in this respect it satisfies the condition of correspondence as developed in Russell's theory.

An example may serve to illustrate the point. Take Boyle's law concerning one of the properties of gases. Suppose that an investigator is engaged in discovering what, if any, is the relation between the volume and pressure of a given amount of gas when the temperature remains constant. He states the problem and begins the process of inquiry. When the process of inquiry has been completed an answer has been formulated as a theory, proposition, etc., which solves the given problem. In the present instance our investigator concludes his experiments with the proposition that the pressure exerted by a given amount of gas is inversely proportional to its volume (or $PV = K$). On Dewey's theory a solution has been formulated which meets the conditions set by the problem and inquiry is brought to a close. Similarly, by Russell's theory the investigator has asserted a proposition about gases and his proposition is true if those asserted characteristics are present among gases.

It is important to observe the character of a solution in Dewey's theory. For we find that among the requirements that the result of inquiry (in the form of a solution or warranted assertion) must observe, is the very same requirement that in Russell's theory is called "correspondence with fact." In the above example the end product of inquiry would be the warranted assertion: $PV = K$. And as we saw this assertion: (1) solves the initial problem and hence meets the requirements of Dewey's theory; (2) asserts something about facts which those facts substantiate and thus

¹⁴ We can not discuss here those cases where by Russell's theory an assertion may be true (specifically those of "immediate truths" and unverifiable assertions) but where by Dewey's theory no judgment about them is warranted; i.e., they are to be regarded as matters of speculation or opinion since they are not products of prior inquiry. At the risk of sounding dogmatic, I think it can be shown that these exceptions to Dewey's theory are themselves of a rather questionable nature, and even on assuming them, are not very significant aspects of knowledge.

satisfies the requirement of truth in Russell's theory. It should be clear that if the statement $PV = K$ did not solve the original problem being investigated, if it did not state the relation holding between the pressure and volume of a gas (with temperature constant), it would fail to correspond or be true by Dewey's theory and by Russell's theory. Hence, the very way in which truth as correspondence is formulated in Dewey's theory presupposes as a necessary condition Russell's sense of correspondence. For it is very difficult, indeed, to imagine a solution to a given problem, which is warranted by inquiry, which does not involve as at least one of its characteristics "correspondence" as Russell uses the term. And it is also the case that *any* solution, proposition, or theory must, if it is to be true, *at least* express in its linguistic formulation certain characteristics about events which are present among those events. But although this requirement is implicitly a part of a warranted assertion, it does not, in itself, guarantee an assertion to be warranted. This is what is meant by saying that Russell's sense of correspondence is implicitly a *necessary* condition, but not, however, a *sufficient* condition for truth in Dewey's theory. For in addition to this condition, which perhaps was such an obvious one that Dewey has not mentioned it, but rather taken it for granted, Dewey has made clear his own conditions, namely, those of. (1) a problem situation, and (2) previous inquiry as determining whether a statement is warranted or not.

Russell's theory of correspondence is a sufficiently abstract requirement to hold for all those cases in which a proposition is true; but it is a condition which, taken by itself, does not tell us enough about what conditions assertions must satisfy to be of any real significance in an actual case where a problem is being inquired into. What his theory does accomplish is to describe what, when an empirical proposition is true, one of the necessary conditions is which must be present. In this sense it is a logical description, a formulation which holds for all cases of true propositions. It is in this respect that Russell's theory is not *operationally* significant in the sense in which Dewey's is; it does not tell us enough to assist an investigator in the midst of an inquiry. It does state, however, what one of the conditions will be for the result of the investigation, if the result is a true proposition.

I have attempted to show that the two theories under examination are related in an important respect. Both are theories of correspondence, but the sense in which correspondence is meant in Dewey's theory includes (or presupposes) the kind of correspondence formulated in Russell's theory. As "correspondence" is meant in Russell's theory it describes one necessary character-

istic of all true statements. But Dewey's theory, we said, formulates in addition to this assumed general characteristic two other specific requirements which statements, if they are true, must observe. We may list these requirements formulated by the two theories as follows. A statement is true:

(1) If the characteristics it formulates about certain facts are present among those facts, i.e., if what is asserted about facts corresponds to those facts (Russell's theory);

(2) If it is the outcome of some inquiry—if it is warranted; and

(3) If it solves a problem to which it corresponds, as an answer corresponds to a question (Dewey's theory).

We have said that both (2) and (3) involve or entail, or implicitly presuppose, requirement (1). And it is in this sense that the two theories are related, although there may be other respects in which they are related which have not been mentioned. It is sufficiently evident, however, that if the theories are related in any important sense, as I have tried to show them to be, they are related in the manner in which both are correspondence theories of truth.

To conclude, then, regardless of what might be considered general differences in the philosophies of Dewey and Russell, their theories of truth are intimately related. This relation depends on the use and meaning of the term "correspondence." Russell's more abstract and descriptive sense of correspondence is presupposed in the more specific operational theory of correspondence which Dewey has formulated. The inclusion of Russell's sense of correspondence as a presupposed and one necessary condition for truth in Dewey's theory constitutes the basis of the relation between these two theories. And this is the important way, I have been contending, in which these two theories are related.

H. S. THAYER

BARD COLLEGE

BOOK NOTE

The Path of Science. C. E. KENNETH MEES, with the co-operation of John R. Baker. New York: John Wiley & Son, Inc. London: Chapman & Hall, Ltd. 1946. xii + 250 pp. \$3.00.

In spite of some obvious faults and limitations, this is an interesting book. Its author, director of research at the Eastman Kodak Company, has attempted in it to survey the development of

the sciences and to exhibit the relations of that development to the history of civilization. But while its major thesis—that mankind has made progress through recorded history and that the pattern of historical alterations may be depicted as that of a helix—is not presented convincingly, the book is full of shrewd and often wise observations on the conditions making for scientific advance, and contains much first-hand information on the organization of academic and industrial research.

The first two chapters of the book are concerned with problems of historical interpretation and with advancing the author's helical conception of history. Dr Mees adopts with some revisions Flinders Petrie's theory of cultural cycles, but places chief stress upon the scientific activity of mankind as being the only one which is undoubtedly cumulative and progressive. The helix of history, according to Dr. Mees, shows a steady increase in the separation of its coils, springing upward in an almost vertical direction after the alleged discovery of the methods of experimental science in the seventeenth century. The next two chapters are devoted to an account of scientific method and its development since antiquity. The author's account of what this method is has a strong Baconian flavor, and he is not at his best in handling the logic of scientific inquiry. Indeed, his discussions in this domain are an amalgam of ideas obtained from various secondary sources, rather than a reflection of his experiences as a research worker. The subsequent three chapters offer thumb-nail sketches of the growth of physical, chemical, and biological ideas (the chapter on the history of biology being the contribution of Dr. Baker), but they are little more than chronicles and exhibit some of the defects of Dr. Mees's conception of the logic of science: for example, it is at least misleading and hardly the whole truth to say that the progress of chemistry was greatly delayed by the adoption of the phlogiston theory.

The final three chapters, the best in the book, are concerned with the present organization of fundamental or "pure" research, with the character of industrial research and the application of science to technology, and with general considerations on the relation of science to society. Dr. Mees makes an eloquent and much needed plea for fundamental research not controlled by the primary aim of contributing to human welfare, and calls attention to the difficulties and dangers involved in "planned" research:

The increase in efficiency of operation achieved by planning is balanced by the loss of independent thought, with a consequent diminution in the trial of ideas. This is especially true of the conduct of scientific research in the universities where any restriction of the liberty of investigators to choose their

own work or even any inducement to follow lines chosen for them is to be deplored. It is even desirable that a large number of investigators should be forced, by lack of external suggestion, to find for themselves subjects for their work. [P. 201.]

Dr. Mees distinguishes between various types of research laboratories and believes that the bulk of new ideas by which science is advanced will most likely continue to come from the universities. On the other hand, he recognizes the place that research institutions, directed to special problems of science and probably supported by public funds, are bound to play in the future development of science. He examines carefully the function of industrial research in modern systems of production, and offers a number of tentative suggestions as to how industries that are not large enough to afford adequate research departments may nevertheless obtain the benefits of specialized investigations. His judgment is that

The experience of the last thirty years suggests that the greatest success has attended those industrial research laboratories in which the director has been permitted a high degree of autonomy and an assurance of continued support. Industrial research is an adventure; it is even a gamble, though one in which the odds are on success, provided that the work is continued in spite of delays and discouragements. [P. 224.]

And finally, he maintains that while the techniques of the physical sciences can not be transferred to the field of social studies, "the scientific method itself can and must be used for the study of the structure of society, its reaction to changing conditions, and the adjustment required to enable it to retain stability as those conditions change" (p. 230).

E. N.

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THE JOURNAL OF PHILOSOPHY

PHILOSOPHY AND THE ABUSE OF LANGUAGE

I

THE influence of language upon the formulation of philosophical problems has been recognized since Plato. During the history of philosophy there have been sporadic investigations of the nature of this influence. Many philosophers, among them Bacon, Locke, and Roscellinus, have even cried out against it.

But it is not until we come to contemporary philosophy that we encounter a systematic and detailed inquiry into the relation between language and philosophy. The rise of relational logic and the science of semiotic have made us extremely conscious of the intimate character of this relationship.

Among contemporary philosophers there are at least four who have gone beyond a mere description of this relationship to reveal its harmful character. Russell, Lewis, Carnap, and Wittgenstein, in varying degrees of forcefulness, have elucidated the abusive functions of language, in the ways in which it generates certain pseudo or illusory problems in philosophy.

Russell has written, "The influence of language has, I believe, been profound and almost unrecognized. If we are not to be misled by this influence, it is necessary to become conscious of it, and to ask ourselves deliberately how far it is legitimate."¹ Probably no one in modern philosophy has demonstrated so profoundly as Russell the influence of language upon philosophy, especially metaphysics. His historical insight into the connection between the subject-predicate logic and the substance-attribute metaphysics that led inevitably to monism is among the genuine achievements of contemporary philosophy.

In the development of his method of constructionism Russell has elucidated the ways in which language gives rise to illegitimate philosophical issues; and much in the method itself is concerned with the separation of the factual from the linguistic in philosophical inquiry. Many traditional philosophical problems, Russell shows, are only partly empirical and mainly linguistic; and phi-

¹ "Logical Atomism," *Contemporary British Philosophy*, ed. J. H. Muirhead, First Series, p. 367.

losophy must recognize this lest it plunge into unnecessary pitfalls. Consider the problem as to the nature of matter:

Matter, traditionally, has two of those "neat" properties which are the mark of a logical construction; first, that two pieces of matter cannot be at the same place at the same time; secondly, that one piece of matter cannot be in two places at the same time. Experience in the substitution of constructions for inferences makes one suspicious of anything so tidy and exact. One cannot help feeling that impenetrability is not an empirical fact, derived from observation of billiard-balls, but is something logically necessary. . . . We find no such property as impenetrability, but, on the contrary, endless overlapping of the events in a part of space-time, however, small. *The reason that matter is impenetrable is because our definition makes it so.*²

What obtains in the analysis of matter holds for Russell's analysis of mind, number, classes, and described objects, in fact, for all entities which are inferential and suspiciously tidy in their supposed attributes. A sound philosophy, Russell admonishes, is one that resolves the supposed empirical, factual attributes of these entities into linguistic definitions. This does not mean, of course, that the whole of philosophy becomes a matter of linguistic manipulation but only that part of philosophy which we may call "contextual analysis."³ For Russell philosophy is concerned also with real definitions; i.e., the enumeration of constituent properties of wholes that do not depend for their existence upon the ways in which we use language. Russell's analysis of sense-data, sensations, unperceived neutral events and non-linguistic factual forms he considers legitimate philosophical ventures which are not primarily linguistic in character at all.⁴

C. I. Lewis has also shown how much of our philosophical difficulties are verbal and not empirical in character. In his *Mind and the World Order* he has revealed the pseudo character of many questions as to the nature of physical objects and organic entities. Questions like "Are all swans birds?" "Are all swans white?" "Are all men rational?" "Do all physical objects have mass?" "Does a chair have four legs?" "Does a cup have a handle?" are empirical or verbal (in Lewis's sense, *a priori*, conceptual), depending upon how we define our subject terms. If we define swans as birds, swans as white, men as rational, etc., then all of these are mere verbal, linguistic questions to be answered by an appeal to the definitions. If we do not define swans as white, men

² *Ibid.*, p. 366 (my italics).

³ Cf. A. Ayer, *Language, Truth and Logic*, Ch. 4.

⁴ Cf. M. Weitz, "Analysis and the Unity of Russell's Philosophy," *The Philosophy of Bertrand Russell*, ed. P. A. Schilpp, Part V.

as rational, cups as objects having handles, then our questions become empirical, to be decided by an appeal to the facts.⁵

Lewis's analysis, which is foundational in the construction of a sound empirical theory of knowledge, distinguishes between genuine and verbal philosophical problems; and in this he is in complete agreement with Russell. He is acutely aware of the linguistic and hence pseudo character of many traditional philosophical disputes but he does not affirm the linguistic character of all philosophical issues. E.g., the major problem of theory of knowledge itself is not verbal, i.e., the problem as to the nature of knowledge. Lewis's assertion that cognition involves the interaction of the two elements of the conceptual and the given is taken to be more than a stipulation as to how he intends to use his terms; it is meant to be a real definition, i.e., an enumeration of the constituent properties involved in cognition.⁶

Carnap and logical positivism have also attacked the abusive character of language in philosophy. With systematic clarity Carnap has shown the ways in which linguistic confusion has engendered pseudo problems in philosophy. The cardinal sin has been the confusion between the material and the formal modes of speech. "Is a rose a thing?" "Is a thing a series of sense-data or a substance?" "Is number a class of classes similar to a given class?" are questions the linguistic formulation of which, Carnap discloses, may resemble the language of science, i.e., look empirical, but are really syntactical questions about our use of terms. Each of these questions must be rephrased into purely analytic, linguistic ones. E.g., "Is a rose a thing?" becomes "Is the word 'rose' a thing-word?"; and "Is a thing a series of sense-data?" becomes "Is a sentence containing a thing-designation equivalent to or reducible to sentences containing sense-data designata?"⁷

All of the perennial problems of philosophy can be resolved in this way, Carnap and logical positivism contend. The nature of mind, matter, universals, etc., when they are not scientific questions, are linguistic in character, to be settled by appeals to their specific syntactical contexts or language-systems. Real definitions in philosophy are not recognized by Carnap. If they are empirical they belong to science, not philosophy. Philosophy has but one discipline or subject-matter, the revelation of the logical syntax (and, latterly, the semantics) of the language of science.

⁵ Chaps. IX-X.

⁶ P. 19.

⁷ R. Carnap, *Philosophy and Logical Syntax*, pp. 68-69.

As conscious of the rôle of language in philosophy and its ability to generate pseudo problems as Russell, Lewis, and Carnap have been, they can not match the virility with which the most extreme of these philosophers, Wittgenstein, has criticized the influence of language upon philosophy. Unfortunately, Wittgenstein, himself, has published nothing by way of exposition of his doctrines regarding the abusive character of philosophical language. His avowed followers, Wisdom, Ambrose, Lazerowitz, and Malcolm, however, have offered us excellent examples of the sort of thing that Wittgenstein represents.

Now, in this paper, I propose to concentrate upon this extreme Wittgensteinian position and, in order to narrow the discussion somewhat, to deal specifically with two papers of Malcolm, "Certainty and Empirical Statements"⁸ and "Moore and Ordinary Language,"⁹ both of which have gained the respect of some of our astute non-Wittgensteinian critics.¹⁰

Before we begin our discussion of Malcolm, however, certain general comments on the whole group are in order. Unlike Russell, Lewis, and even Carnap, all of whom, as we have seen, distinguish between bad philosophy, some of which (in Carnap, all of which) is due to the abusive character of language, and good philosophy, which has a distinct province and certain propositions of its own, the Wittgensteinians assert that the *entirety* of philosophy is bad and is engendered completely by linguistic misbehavior. In the *Tractatus* Wittgenstein wrote: "Philosophy is not a theory but an activity."¹¹ And so it is for this school. Traditional philosophy is regarded as a *mélange* of empirical problems and linguistic puzzles. Philosophical activity consists in transferring the empirical problems to science and resolving the puzzles. Science solves problems, philosophical activity resolves puzzles, according to the Wittgensteinians. Philosophy becomes a therapy¹² whose sole function is the dissolution of all traditional philosophical problems by a revelation of their total linguistic, non-empirical character. In less technical terms, the fundamental conviction of this school is that philosophy has but one task to perform, to *undo* all the harm it has created, and then quietly to commit suicide.

⁸ *Mind*, Vol. LI, (1942), pp. 18-46.

⁹ *The Philosophy of G. E. Moore*, ed. P. A. Schilpp, pp. 343-68.

¹⁰ Nagel, e.g., in his review of the Moore volume said of Malcolm's essay that it was one of the best in the book, *Mind*, Vol. LIII, (1944), p. 70.

¹¹ L. Wittgenstein, *Tractatus Logico-Philosophicus*, 4.112 (p. 177).

¹² Cf. B. A. Farrell, "An Appraisal of Therapeutic Positivism," *Mind*, Vol. LV, (1946), pp. 25-48, 133-150.

II

In Malcolm's above-mentioned two papers there are many philosophical statements that are submitted to the Wittgensteinian analysis but the one he discusses most completely is the philosophical proposition that no empirical statement can be known with certainty to be true, where by empirical statement is meant any proposition about physical objects, other minds, or the past. Among the reasons philosophers have offered in support of their position, Malcolm points out, are the following:

(1) They have affirmed that an empirical statement is an hypothesis about an infinite series of verifications. By definition, then, the series can never be completed. Certainty, as applied to empirical statements, means complete verification; partial verification gives only probability. It follows from the definition of certainty in terms of the completion of an infinite series of verifications that no empirical statement can ever be certain, but only at most probable. Lewis and Ayer, Malcolm claims, have presented this sort of argument.¹³ A variant of it is to be found in Russell's analysis of memory-judgments. The past can not occur, Russell asserts, and therefore no statement about it can be verified, hence is never certain.¹⁴

Against this argument Malcolm presents two objections: (a) It is *misleading* since it defines certainty in such a way that it would be self-contradictory and not just false for an empirical statement to be certain; and yet at the same time it offers certainty as an attainable goal of our empirical knowledge. But on this view, Malcolm asserts, it makes no sense to attain certainty.¹⁵

(b) It is *mistaken* in that it does not allow for the ordinary usage of "it is certain that" in which when we say "I know for certain that this is a chair," we do not mean "We have performed an infinite number of tests to see if this is a chair" but rather "I *know* this is a chair" as against "*Maybe* this is a chair, but let us examine it further."

The philosophers, Malcolm asserts, would have us abolish an established and much-needed usage in their denial that empirical statements can be known with certainty to be true. In a series of telling examples, in which Malcolm reveals the ways in which certainty and probability function in ordinary language, he discloses the linguistic ineptitude of philosophers who would, quite mis-

¹³ "Certainty and Empirical Statements," *Mind*, Vol. LI, (1942), pp. 20-22.

¹⁴ *Ibid.*, pp. 23-24.

¹⁵ *Ibid.*, p. 22.

takenly, have us abolish "it is certain that" as a prefix of empirical statements. Let us consider three of these since, in our evaluation of Malcolm's critique, they will be given a different interpretation:

(1) Your car begins to choke, sputter and lunge in the way it does when it is out of gas. You say "Probably the gas tank is empty." You then get out and test the tank with a measuring stick which comes out dry. You say "It's certainly bone dry." The philosophers would have us still say "probably" in the latter case; and even if the tank had a removable top, which we removed and saw by the broad daylight that it was empty, they would allow us to say nothing more than "It's highly probable that it's empty."¹⁶

(2) On the basis of knowledge of past performance, you say, "it's highly probable that Joe Louis won by a knockout last night." Later you see the newspapers and talk with dozens of people who saw the fight. Are you to continue to say that it is "highly probable" that Louis won by a knockout?¹⁷

(3) Suppose that a small child says that it saw a lion in the street. You might dismiss this as a fancy, or the wrong use of a word. But then several other older children say they saw it too, and insist that it was a lion. You might then be inclined to say that there was some possibility that they saw a lion. Then you find that a thousand adults swear that they saw a lion in the street. . . . You would then say that it is absolutely certain that there was a lion in the street.

But not the philosophers. They would still have us say, "It is very highly probable that there was a lion in the street."¹⁸

(2) The second reason that philosophers deny certainty to empirical knowledge is because they recognize that the contrary of any empirical proposition is logically possible, i.e., not self-contradictory. They take this logical possibility as *evidence* that the contrary is the case; from which it follows that we can never know for certain whether our original statement is true. The classical example of this argument is the Cartesian, "I know that this is a chair but I may be dreaming and, therefore, my knowledge cannot be certain."

This whole argument, Malcolm contends, rests upon a confusion of logical and empirical possibility, a distinction which obtains in everyday speech.¹⁹ The logical possibility of the contrary of any proposition, Malcolm affirms, does not in the least constitute any evidence for its empirical possibility. That I may be dreaming is no evidence that I am at all.

(3) Philosophers assert that no empirical statement is more than probable because we may be in error as we sometimes have

¹⁶ *Ibid.*, p. 27.

¹⁷ *Ibid.*

¹⁸ *Ibid.*, p. 39.

¹⁹ A doctor, Malcolm points out, who tells his patient that it will be impossible for him to walk on his leg today but that it will be possible in a week or so, is not using these terms in a logical, but in an empirical sense that is defined ostensively in everyday, ordinary linguistic ways. *Ibid.*, p. 28.

been in the past when we have made empirical judgments about which we were certain.

To this Malcolm replies that it does not in the least follow because we have sometimes been in error that we are *always* mistaken.²⁰

(4) The final reason which we shall consider in our exposition of Malcolm²¹ that philosophers have advanced in support of their thesis is a generalization from the third. We can not tell about any perceptual experience whether it is veridical or not and therefore we can not be certain of any statement that refers to a perceptual experience.

Malcolm denies this, asserting that sometimes we can know with certainty that a perceptual experience is veridical; sometimes we can know that it is not; and only sometimes we can not know whether it is or is not veridical.²²

Having disposed of all the arguments brought forward by philosophers in support of their scepticism regarding empirical knowledge, Malcolm offers an explanation of the sort of view they are advocating and the kind of dispute with common sense they are encouraging. Neither their scepticism nor their dispute is empirical, Malcolm states, since there are *no facts* that can validate their theory or settle their dispute. No evidence will persuade them they are wrong in denying certainty to empirical knowledge. Let a common-sense person hold up his hands before a sceptic and affirm his cognitive certainty of them. The sceptic will deny this certainty; but, in doing this, he is not seeking further evidence which will convert him. It would be useless to ask him to come any closer to look or to touch the hands or even to bite them. Consequently, Malcolm concludes, the sceptic's claim is not one that can be substantiated or refuted by experience; hence, it is not an

²⁰ *Ibid.*, p. 42.

²¹ Malcolm offers other reasons presented by philosophers in his two papers but the above four are sufficient for our needs.

²² E.g., "If you have some astonishing perceptual experience, such as seeing a sudden wind hurl a house into the air, you may actually be in doubt, for a moment, as to whether you are having a dream or an hallucination. But if you collect your thoughts and look about you; get the feel of your body, and notice that your sensory reactions are normal and in agreement; observe that your surroundings (other than the house) are what they should be, your recollections being what they are; see that other people are behaving in a way which shows that they are having perceptual experiences similar to yours—then you will know that you are actually seeing a house being thrown about in the air. During the course of this perceptual experience, you would have collected conclusive evidence that it was veridical," *op. cit.*, p. 44.

empirical, factual view but a "paradoxical," i.e., philosophical, one²²

But this is only one example of this sort of thing philosophers do, Malcolm points out in his later paper. They are always generating these pseudo problems, like "Can we know with certainty empirical statements to be true?" which they formulate as genuine, empirical problems, but which are really non-empirical, linguistic puzzles.

"There are no material things," "Time and space are unreal," "No material thing exists unperceived," in fact, all philosophical views resemble the sceptics' in that they constitute an abuse of the language of common sense.²⁴ Because of their nature, any of these views can be refuted by a direct appeal to the language of common sense, since it is the correct language. The *whole* of philosophy can be refuted simply by revealing its linguistic impropriety. Philosophers, Malcolm concludes, are like people who go around saying, "Yes, what you see is what everybody would call a table, but we are going to call it a chair."²⁵

III

Let us now examine Malcolm's critique of philosophy, and let us concentrate upon his paradigm, "No empirical statement can be known with certainty to be true." I should like, if possible, to show that Malcolm's attack is unsuccessful; and thereby to restore one of the traditional functions of philosophy and the general propriety of its language.

(1) The first of Malcolm's counter-arguments against scepticism which we shall consider is the one which is directed against the view that the logical possibility of any proposition constitutes evidence for its empirical possibility. The philosopher says, "I may be dreaming that this is a chair, therefore, I can not be certain that it is." Malcolm replies, "I am certain that this is a chair, and although it is logically possible that I may be dreaming, that is no evidence at all that I am."

Clearly, here is a dispute between Malcolm and the philosopher. And now we must ask: What kind of dispute is this? Malcolm would no doubt say that this is a purely linguistic dispute in which the philosopher is going against the language of common sense.

But this will not do because on the question of the meaning of *evidence*, in which we could say that logical possibility is no evi-

²² *Ibid.*, pp. 19-20.

²⁴ "Moore and Ordinary Language," *The Philosophy of G. E. Moore*, pp. 345-348.

²⁵ *Ibid.*, pp. 356-357.

dence whatsoever for empirical possibility, common sense has no usage. "Evidence," at least in the sense in which we could decide whether logical possibility is or is not evidence for empirical possibility, simply does not appear in the language of common sense. It is a highly sophisticated scientific and methodological term; and the logic of evidence, especially since Hume's analysis of evidence and probability, would take it as the sheerest dogmatism to assert that logical possibility is *no* evidence for empirical possibility. Therefore, it seems to me that until Malcolm can offer us a credible analysis of evidence and show us that common sense tacitly accepts this analysis, he has not refuted the philosophical claim that, e.g., since I may be dreaming, I can never be certain of any empirical knowledge. This, of course, is not to say that the philosophical claim is justifiable; only that Malcolm has not refuted it.

(2) My second criticism of Malcolm is that he does not discuss in his two papers the *basic reason* which philosophers have offered in defence of their scepticism. This basic reason philosophers have taken as most empirical and factual in character, since it is derived from an extended analysis of perceptual experiences. Philosophers who have denied certainty to empirical statements have sometimes done so because they have been forced to recognize the difference between immediate and inferential knowledge; i.e., between our sense-knowledge and our knowledge of physical objects, other minds and the past. Whether or not this distinction is a correct one is not as relevant here as the fact that some philosophers have taken it as an empirically arrived at fact that we know immediately sense-data and propositions about them; and that we know only by inference (or construction, e.g., Russell's view since 1914) the referents of empirical statements. These philosophers have regarded it as an *empirical fact* and not as a *matter of linguistic proposal* that we do not have certainty about inferred entities, the reason being that we do not experience them sensuously. Perhaps this epistemic analysis and its resultant distinction is not an empirical one but a disguised linguistic proposal, but Malcolm has not demonstrated this; and, until he does, his contention that the dispute between common sense and philosophy is only linguistic has not been adequately defended.

In the light of this distinction between immediate and inferred knowledge, a distinction which many epistemologists have made since Descartes, we can see better why philosophers have sometimes made the statements they have.

Consider, e.g., Russell's statement that we do not confirm directly propositions about physical objects. Direct confirmation

of a proposition, Russell begins, occurs when its referent is sensed.²⁶ The empirical question arises, what do we sense? The empirical answer that is given is: patches of color, noises, tastes—i.e., sense-qualities. The empirical conclusion, then, is that physical objects are not as a matter of fact sensed, hence, are known either inferentially or constructionally. Now, in all of this, there does not seem to be anything *self-contradictory* in the direct confirmation of a proposition about a physical object. It is just taken as *not true* that we do confirm such a proposition directly.

Consider, next, Russell's statement that we do not confirm directly propositions about the past. To be sure, the way Malcolm has set up Russell's argument, it looks as if it would be just self-contradictory to have certain knowledge about the past, specifically, memory knowledge. But, if our analysis of Russell's statements about physical objects is accurate, then Malcolm's evaluation of Russell is not correct again. Russell's distinction between what is sensed immediately and what is inferred is our starting point. And among the things that are not sensed immediately are past events, along with physical objects and other minds. It is an empirically arrived at fact that we do not know the past immediately, not a logical impossibility for Russell. It is not Russell's fault that our knowledge of the past is not certain, but reality's.

This analytic, epistemic distinction between what we sense and what we infer vitiates Malcolm's examples of the gas tank, the Louis knockout, the lion in the street, and the so-called veridical experience of the hurricane blowing a house into the air. All of these are basically *argumenta ad populum*. They possess an initial credibility only because they assume that which the sceptic would question, namely, a kind of sociology of knowledge. The sceptic is made to look ridiculous only because his views are taken as on the same level of assertion as those of common sense. But once it is seen that his insistence upon probability is founded upon analytically and empirically arrived at facts, the ridicule vanishes. Let the sceptic be present at the Joe Louis fight. His first reactions will be like everyone else's, a strong emotional attachment to his excited common-sensical beliefs about the thousands of people present, the enormous stadium, and the two chief contestants. He is like the sceptical soldier on the battlefield or the sceptical esthete at a magnificent concert. But we can conclude from all of this only that it is difficult to begin epistemological inquiry in an emotionally charged social context; and not that the results of that

²⁶ *Our Knowledge of the External World*, Ch. 3.

inquiry once it does get started are ridiculous. There is no difference between Cartesian doubt in the quiet of the study and in the noise of the stadium. It is only more difficult in the stadium. But it can be done, and when the sceptic does it, he wishes to point out to himself that the same old distinction between sense knowledge and empirical knowledge can be applied. Specifically, he would distinguish between all of the variegations of color-expanse and the objects they somehow relate to. Sensuously, he would be aware of the two most interesting groups of these families of qualities,²⁷ namely, those that related to the fighters. But neither of them, nor the 20,000 other people, would be sensuously given to our Cartesian spectator; and, because of this, he would insist that in all probability the substantival Joe Louis knocked out his substantival opponent.

All of this, of course, is rather brief but, in principle, we can see what it is that the sceptic is doing when he questions the convictions of common sense, whether they relate to empty gas tanks, lions in the street, knockouts, or hurricanes.

We may now also understand the connection between error and probability judgments. According to Malcolm, the philosopher infers that no empirical statement is more than probable from the premise that we may be in error now as we sometimes have been in the past. To this, Malcolm replies that it does not at all follow because we have sometimes been in error that we always are.

In this Malcolm is correct, but the trouble is that scepticism, if it ever has used such an argument, need not do so. What the sceptic means to assert is not that we are always in error when we make empirical judgments, only that we are always in doubt. More fully, the sceptic says: We have made empirical judgments in the past about which we were certain, and these turned out to be erroneous. Since this has happened before, although it does not follow that it will always happen, it does follow that we should be wary about such cognitive judgments. Once in error, always in doubt but not always in error.

To sum up this second criticism: It seems to me that Malcolm is quite wrong when he says that the dispute between himself and the sceptic is not empirical; or that philosophers do not disagree with ordinary people about facts but only on linguistic matters. The dispute can be settled by an appeal to the facts; and the reason that no sceptic is convinced by seeing, touching, or even biting the hand of common sense is not because no evidence can convince him but because all of this evidence is of the same kind, namely, in-

²⁷ Cf. H. H. Price, *Perception*, Ch. VIII.

ferential, non-immediate. When the sceptic says that it is not certain but probable that this is a hand, he is making an empirical claim, one that is based upon a tremendous amount of analysis of perceptual facts.²⁸

Furthermore, Malcolm himself confesses the empirical, factual character of the dispute between common sense and philosophy in his discussion of the refutation of philosophical statements:

In the case of all expressions the meanings of which must be shown . . . it follows, from the fact that they are ordinary expressions in the language, that there have been many situations of the kind which they describe; otherwise so many people could not have learned the correct use of those expressions.²⁹

Malcolm's real quarrel with philosophy can now be seen. Common sense and its language, he is convinced, are correct and philosophy and its language incorrect because the former *describe the facts* and the latter do not. But his dispute with philosophy is an empirical one and can be settled only by an ultimate appeal to the facts.

(3) Malcolm states that philosophers are both *mistaken* and *misleading* in their denial of absolute certainty about matters of fact. His assertion raises the problem as to the language of philosophy in relation to the language of common sense.

The first thing that needs to be pointed out is that philosophers who recommend the abolition of the prefix "it is certain that" as applied to empirical statements do not suggest that the language of common sense is mistaken. What they mean to say to common sense is that its language is all right provided its interpretation of the facts is all right. But the interpretation is not all right;

²⁸ C. A. Campbell, in a fine article on Malcolm and the Wittgensteinians, epitomizes the sceptic's argument: "I cannot agree that the statement 'I see a cat' ['I see a hand' would do just as well] does accurately and precisely describe the facts as these appear on an analysis of them more thorough than is appropriate to everyday life. The ordinary statement suggests, e.g., that through visual sensing alone we cognize the cat; and this seems not to be the case. There are good grounds for holding that several factors besides visual sensing . . . enter essentially into cognition of the cat. There are good grounds for holding that visual sensing gives us at most certain 'sense data' of colour, shape, and size, and that the sense-data seen at any one time are not only not identical with the cat . . . but may not even be identical with the surface of the cat. In short, the real 'facts of the situation' are very different from anything that can be said to be accurately described by the statement 'I see a cat.' Is there any valid reply to this defence of his 'paradox' by the philosopher? I can only say that I cannot find one in Malcolm's pages," "Common Sense Propositions and Philosophical Paradoxes," *Aristotelian Society Proceedings*, 1944-1945, pp. 15-16.

²⁹ "Moore and Ordinary Language," *op. cit.*, p. 361.

therefore, the articulation of the interpretation is mistaken and needs revision.²⁰

Further, many philosophers are not misleading anybody in their linguistic proposals by setting up unattainable goals; rather they are offering linguistic alterations in an attempt to effect a more precise and correct language, one that will fit the facts, where the facts are ascertained by epistemic analysis.

Hume and Russell have illustrated best the relation between common sense and its language and philosophical scepticism and its language. Common sense believes in tables and chairs, distinguishes them from their colors and sizes, and asserts, e.g., "This table is brown." Hume and Russell challenge this substance-attribute metaphysics and offer a more empirical one in its place, which interprets the table as a collection of qualities. All of this calls for a reconstruction of the language of common sense; and "This table is brown" becomes "This brownness is a member of a class of qualities which total class we call 'this table.' "

(4) Another reason, which Malcolm does not mention either, why philosophers have rejected the language of common sense and its belief in cognitive certainty, is because of the influence of science. Since one of the fundamental principles of science is that *all* empirical knowledge is scientific, which means specifically that all empirical knowledge constitutes predictive, hypothetical propositions, it has itself called for the abandonment of certainty as applied to our knowledge of matters of fact.

If philosophy is paradoxical and shocking and refutable by an appeal to the language of common sense, so is science, since on this issue philosophy and science are agreed.

Malcolm speaks of the "conclusive evidence" that ordinary experiences offer us in his refutation of the view that no experiences can be known with certainty to be veridical. But the language of science, like the language of philosophy, does not recognize the realization of conclusive evidence in its quest for empirical knowledge.

(5) Malcolm asserts that some empirical statements can be known with certainty to be true on the grounds that there is a perfectly good usage of certainty as against probability, which usage is rooted in non-linguistic life situations. Now, on the same grounds, why can not one argue that some empirical statements are *necessary* and some facts are *inevitable* because there are perfectly good usages of these, too, also rooted in ordinary, everyday situations? A politician says, "Maybe we should control

²⁰ Campbell, *op. cit.*, p. 8.

atomic energy," and a statesman challenges him, "No 'maybes' about it; we must, it is *absolutely necessary* that we control atomic energy." Another politician says, "Taxes are *inevitable* in any society," and everybody gives his unenthusiastic assent.

The philosopher, i.e., the sceptic, replies to all of this: no fact is inevitable, no empirical proposition is necessary. He presents the most cogent of arguments, most of which are derived from Hume and reiterated by empiricists ever since. Are we to say that the philosopher's views are shocking, his language paradoxical, and both refutable by an appeal to the language of common sense? Or shall we not and more correctly say, common sense and its language here are in error? I think that any empiricist, including Malcolm, would have little choice in the matter but to accept the latter view and perhaps incline a little with Broad to the view that common sense, at least on this issue, ought to go out and hang itself.

The Wittgensteinians have undoubtedly contributed a great deal to contemporary philosophy, especially in having made us aware of the linguistic differences between philosophy and common sense. But, if Malcolm is to be taken as representative of them, and there seems to be no disagreement about this, they have not by any means shown that traditional philosophy is nothing but bad language or that good philosophy is nothing but linguistic therapy. If our analysis has been adequate, it follows that there is a good deal of merit to the traditional view that philosophy is concerned with very important non-linguistic problems, in the solution of which it may quite correctly call for a complete rewording of the inaccurate language of common sense.

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WHAT ARE CATEGORIES FOR?¹

IN a number of recent papers on metaphysics, I have noticed an uncriticized, or, at least, an insufficiently criticized, assumption that categories should be universal traits of being. This assumption is so widely accepted, and so apparently obvious and innocent, that it is particularly insidious. It is on a par with a number of other apparently obvious and innocent instruments of philosophic attack such as "meaninglessness," "the pseudo-problem," "the equational definition" (when employed on empirical subject-matter), and "what is the case." These are all instruments by which

¹ Read at the meeting of the Pacific Division of the American Philosophical Association, University of Oregon, December 27-29, 1946.

men (usually quite unintentionally) seek to evade criticism. Some of these devices, like the first two, are means of discounting without resort to evidence views with which a man happens to disagree. Others, like the last two, are means of avoiding the necessity of presenting evidence for anything believed to be a matter of fact.

The assumption of the universality of categories is an instrument of the latter sort. It is a device for getting men to accept critical distinctions as matters of fact without an appropriate weighing of the evidence. For if something is posited as in some sense a universal trait of being, the attention of the enquirer is turned upon the character of the trait and the manner in which it is treated as universal, not upon the evidence for the existence or the range of the trait as described. The assumption of the universality of categories is, in short, like the other devices mentioned above, an instrument of dogmatism. It is an instrument which when employed in empirical enquiry has the effect of disturbing the judicial observation of the evidence.

And so I am asking you to notice that one of the latest new instruments of dogmatism is the assumption that categories are universal traits of being.

This paper is actually prompted by an article of Henry Aiken's in this JOURNAL, Volume XLIII (1946), pp. 517-526, entitled "Notes on the Categories of Naturalism," in which he makes some criticisms of Dennes's treatment of categories in the latter's essay in *Naturalism and the Human Spirit*. What particularly impresses me in Aiken's article is his unquestioning acceptance of Dennes's basic assumption that "basic categories should be as neutral and as universal as possible" (p. 523). Aiken accepts this assumption unquestioningly. He does observe "that the increasingly neutral character of the categories of contemporary naturalism renders it much 'thinner' and less distinctive as a metaphysics. What it has gained in universality and indestructibility it has lost in richness of content and significance" (p. 523). But his observation of this symptom of a difficulty in the method does not lead him to correct it, but apparently only confirms him the more in his use of the method. What I am pointing out, of course, is that actually the "indestructibility" which Aiken thinks he gets from the "universality" is simply dogmatism. Would Aiken think of talking about an "indestructible" hypothesis or metaphysics? I am quite sure he would not. Then clearly, if he thinks he has got some "indestructible" categories, he is being dogmatic about them (absolutely certain) in a way he would not be about a metaphysical theory. He is not allowing for the possibility that his categories may not be absolutely certain. Yet in this very article he is

pointing out that some of Dennes's basic and, therefore, supposedly "indestructible" categories were in error. So either Dennes's original categories or Aiken's, which he substitutes for them as "indestructible," were in fact "destructible." Or are the "indestructible" categories referred to not either Dennes's concept of them nor Aiken's concept of them, but "what is the case" about them? In that case, these writers are implicitly appealing to the old dogmatic device of "what is the case," to which I referred earlier. What evidence is there that "universality" guarantees "indestructibility" in cognitive matters? None is offered. Appeal may be made to an equational definition to the effect that "universality" is equated with "indestructibility," but this is not an appeal to evidence. So not only does such an appeal to universality of categories tend to deprive a metaphysics of significance, as Aiken observes, but it also tends to deprive it of security, which seems to be Aiken's only remaining recommendation for it. For there is only one source of empirical security, and that is empirical evidence.

With this introduction in mind, let us examine more closely this notion of "universality." It is a highly ambiguous notion. Aiken himself clearly brings this fact out in his article. Let us break the notion down into its principal alternative meanings, and examine these for their tendency to dogmatism. There are two principal sets of ambiguities which I shall name Set I and Set II.

Set I is based on the overall ambiguity as to whether the "universal" categories are to be regarded as factual features of the world and therefore incorrigible, or, as human concepts with truth references, and therefore hypothetical and corrigible. As Aiken puts it, are they "to be construed as categories of interpretation or inquiry or also as categories of being?" (p. 517). Aiken's "also" confuses me, and perhaps carries into his distinction something of the very ambiguity of meaning he is distinguishing. There are now three live possibilities here (for I ignore as dead the possibility that categories are self-evident concepts regarded as both true and incorrigible, because I trust that philosophers of today have given up belief in philosophical miracles):

- (A) That categories are factual features of the world and incorrigible.
- (B) That categories are hypothetical concepts and corrigible.
- (C) That categories are pure projections of the mind upon the world Kantian-wise, or in the manner of a cultural ideology, in which case they are incorrigible because a truth reference is considered irrelevant.

Of these three active possibilities, we can throw out the third, so far as our present issues are concerned. For if all metaphysical categories were either Kantian or purely cultural, the possibilities (A) and (B) would be excluded by hypothesis, and there would be the end of our issue over the empirical rôle of categories.

The Set II ambiguities have to do with the question as to what constitutes universality. Is it (i) pervasiveness, (ii) generality, (iii) irreducibility, (iv) neutrality, or still something else? In short, if universality is what distinguishes a categorial feature from other features, what specifically does universality mean? What specifically is it that a categorial feature has that a non-categorial feature does not have?

The Set II ambiguities clearly apply to either of the Set I ambiguities (A) or (B). That is, the ambiguities of universality apply to categories regarded either as pure facts or as concepts. We have, accordingly, quite a pretty little system of ambiguities, which can be tabulated thus:

Set I (A) Categories as features of the world (in corrigible)

Set II (i) as pervasive

Set II (ii) as general

Set II (iii) as irreducible

Set II (iv) as neutral or invariant.

Set I (B) Categories as concepts (corrigible)

Set II (i) as pervasive

Set II (ii) as general

Set II (iii) as irreducible

Set II (iv) as neutral or invariant.

We can not very well within this paper go through all eight of these to show their tendencies to dogmatism. But we can work with samples. Let us take pervasiveness as a test case for Set I and see first what can be intended by regarding a category as a pervasive incorrigible feature of the world. How do we cognitively get at such a feature? On the basis of my reading in philosophy, I find it exceedingly difficult even to conceive of such a feature with any cognitive security. Dennes suggests as his basic categories "event," "quality," and "relation." Whether he intended these to be pervasive or not is not my present point. But observe that "quality" and "relation" are by definition mutually exclusive and so can not, at least, be "pervasive" of each other. "Event" may be pervasive, but only by excluding the possibility of timeless being such as the "subsistence" of the neo-realists, which, incidentally, seemed, to men of this school, required in order to handle

adequately evidences of the action of "qualities" and "relation" in experience.

Let us, tentatively, then, consider "event" or (perhaps better) "time" as a pervasive feature of the world. How should we know that time is pervasive? We observe, perhaps, that time enters into every perception and thought that we observe. But we also observe repetitions, similarities, laws, and the like which seem to indicate features of the world independent of time. How are these to be shown as pervaded with time in spite of the evidences to the contrary? In fact, how could one incorrigibly observe the pervasiveness of time anyway except imaginatively through a Roycean act of omniscient immediacy, which Royce did not claim to know immediately but only by conceptual extrapolation from experiences of immediacy.

In other words, the pervasiveness of any feature of the world is something that can never be observed directly. It is an attribute that can be ascribed to features of the world only by conceptual inference. First the temporal feature of any experience has to be discriminated from other features of experiences and given a name. This name will then refer to all experiences in which time is discriminated. The name with its reference is then a concept with a verifiable reference. A proposition is then constructed to the effect that all observed experiences have a time character. This proposition is then generalized by extrapolation to the inferred proposition that all occurrences in the world have a time character. And now, but not till now, can time be asserted to be a pervasive feature of the world.

But note that this is far from a direct observation of time as a pervasive feature of the world. This is nothing more than a conceptual hypothesis of a probability that time is a pervasive feature of the world. It is not at all incorrigible but very much open to error, and frequently doubted on excellent evidence. This, then, is an instance of a category treated as a concept (and corrigible), not of a category treated as a feature of the world (and incorrigible). Furthermore, it must be fairly clear from this one sample that (unless one resorts to some idea of omniscience, which would only be another hypothesis) any of the various notions of a category as a feature of the world (and incorrigible) would turn out to be defensible only as conceptual categories subject to evidence (and corrigible). So, we can rule out the notion of categories as features of the world (and incorrigible) as being a notion that is empirically indefensible. That throws out all the Set I (A) conceptions of universality.

Possibly, it may be said, philosophers resorting to the principle

of universality never intended to regard categories as anything but concepts. Be that as it may, the point to observe is that the principle of universality does not provide an intuitive method for the discovery of categories. Even if every observed experience contains a certain feature, that circumstance does not establish the pervasiveness of that feature, but only a degree of evidence for the *conceptual hypothesis* that said feature is pervasive.

So now we can confine our attention to the universality principle applied solely to categories regarded as concepts (and corrigible), Set I (B). I have a kind of notion that the heart has already gone out of our enterprise. In some way, universality seems to have been supposed to furnish objectivity immediately and to overcome the liability to error associated with all concepts. But, as we have seen, universality in the sense of pervasiveness can not perform that miracle—and the same grounds would apply equally to generality, irreducibility, neutrality, for all of these equally involve conceptual hypotheses. The principle of universality seems, then, to have been intended as a means of avoiding resort to evidence in support of hypothetical categories. But having started on this enterprise, let us go on with it, for there are some pitfalls still ahead.

What about pervasiveness applied now to corrigible concepts instead of to incorrigible features of the world? Would a pervasive concept be a category? What should a pervasive concept mean, now, in this new context? It might mean a concept in a world hypothesis which for that world hypothesis is a pervasive feature of the world. So, *mind in Berkeleyan idealism* would be a pervasive concept. But notice that pervasiveness in this sense does not lend any particular cognitive distinction to the concept. If anything, the attribution of pervasiveness to this concept in the Berkeleyan view, makes us all the more suspicious of the view. In short, the attribution of pervasiveness to a concept is, so to speak, an accident of the world hypothesis in which the concept occurs. Time in the sense of a field of locations is, for instance, a pervasive feature of any mechanism; and, in the sense of a duration, it is a pervasive feature of any contextualism. It is not, however, a pervasive feature of either formism or organicism, or, we might add, mysticism. The pervasiveness of a concept, in this sense, therefore, does not seem to have much significance. A sharply dualistic world theory such as a *subsistent formism* might contain no pervasive concepts at all.

Could pervasiveness be given some other meaning, then? Could it mean a concept which pervaded all world hypotheses? The idea then would be that a concept which was a common feature of all

world hypotheses (or of all "good" world hypotheses!) would be a cognitively superior concept to others which had not this universality. There may well be a cognitive security in such concepts, but these are not the kind of concepts generally regarded as philosophical categories. They are the every-day concepts of common sense and the generally accepted concepts of the sciences (such as those for animals and plants, physical laws, engineering formulas, and cooking recipes) which in some sense every philosophy includes. As for the critical concepts which distinguish one world theory from another, these are just the concepts that do not pervade all world theories. Hence an appeal to the pervasiveness of concepts in world theories as a sign of the cognitive validity of the concepts, is either an attempt to level down thought to common sense and the accepted concepts of science, or an attempt to exclude certain "bad" hypotheses because they failed to be pervaded by the outstanding features of certain chosen "good" hypotheses, in which these features are pervasive. And this is, of course, dogmatism, because the only empirical justification for rejecting a concept is to examine the evidence relating to it. The fact that a presented hypothesis does not correspond in its concepts with some preferred hypothesis is not a valid criticism of the hypothesis presented. It is a subtle way of rejecting the presented hypothesis without resort to evidence. For instance, if a mechanist rejected organicism because time is not a pervasive feature of the absolute, that would not be a valid empirical criticism of organicism. It would simply be a dogmatic expression of mechanism. So, the principle of pervasiveness employed as a means of selecting even corrigible categories tends to be dogmatic.

The same is true of generality, irreducibility, and neutrality.

Generality differs from pervasiveness in connoting a property of a class as against an element in a compound. The two as categorical features are often indistinguishable. Some abstract general traits, however, would not do as concrete pervasive elements. Particularity, for instance, is a general trait rather than a pervasive one, and similarly with existence. Both of these could be taken as categories of unlimited generality in theories like those of Hobbes, Berkeley, and Hume, which stress the maxim that "only particulars exist." These are very thin categories in those theories, however, and are stressed mainly to differentiate those views from types of formism in which universals have being as well as particulars. That is, as categories of individual world hypotheses such concepts of unlimited generality are rather trivial. But more than that, it is clear that their generality is no special recommendation for them as categories. It adds nothing to their cog-

nitive security. For the question still remains as to what the general character of existence or particularity might be, and as to whether there are not entities which lack these characters in the way formism says there are. Evidence has to be presented to demonstrate the unlimited generality of these concepts. In short, the status of the concepts is supported by the theory, not the theory by the status of the concepts.

But are there no concepts which would be common to all world theories, and would therefore be of unlimited generality in an absolute sense, and so have a cognitive security independent of any theory? Except for the concept of "being," which would include the existence of particulars and the subsistence of universals and the eternity of the organistic absolute and any other sort of being, I should hesitate to say there was any such concept. But if there were, its security would not arise from the generality of the concept, but from the fact that the concept was supported by all world hypotheses, so that all the evidence which supported these hypotheses supported this concept.

Someone may now object that this whole way of dealing with the question is absurd. Must we take seriously every crack-pot theory about the world? My reply is the essence of this whole paper, that what is absurd is the idea that you can get "categories" or anything else of cognitive value without going directly to the source of cognitive value, namely, to the evidence. The principle of universality in every one of its ambiguities implies precisely this absurd idea that you can obtain concepts with an empirical reference binding to cognition without full consideration of the evidence. The absurdities of my method of dealing with the principle of universality in this paper (which I hope are becoming obvious) arise simply out of the absurdity of the principle itself as a source for empirical categories. All forms of the ontological argument (this form included) are empirically absurd.

But to return to generality. Can not you imagine some exponent of the category of "time" arguing to the effect that all *genuinely* (!) empirical philosophies recognize time as a character common to all empirical facts? What is the intended effect of this argument? Its intended effect is to bring the weight of authority of all the *genuine* philosophies to the support of this particular philosopher's conviction that time is a character common to all experience. But in order to gain the authority of the *genuine* philosophies, this philosopher has to exclude as counterfeit philosophies such world hypotheses as mysticism, formism, and organicism in which time is not a character common to all experience. On what basis does he make this exclusion? On the basis

of his own conviction that time is common to all experience. So actually, his only authority is his own conviction. And that, I point out, is dogmatic.

The same with irreducibility. What is reducible in one world theory is not reducible in another. An electron is irreducible in present-day mechanism. It is reducible in most other philosophies. The sense quality "yellow" is irreducible in certain types of formism, but generally considered reducible in contextualism and organicism.

Do I hear someone suggest that these are simply transformations of language? This is another modern device of dogmatism. If I happen to disagree with some of your fundamental convictions, you assure me that I can not disagree, because the facts are what they are, and whatever disagreements there are must be disagreements of language. This involves an assumption that someone knows the facts as they are (what is the case), and, of course, it must be you with your convictions. You then do me the compliment of supposing that I really have the same convictions you have, and that our differences are merely differences of vocabulary and grammar. You do not notice that this is only a very subtle way of imposing your convictions on me and diverting the issue from an examination of the evidence to an examination of the intricacies of language.

And similarly with neutrality. If neutrality does not mean the same as generality, it presumably means invariancy. Invariancy is taken as a sign of objectivity in physics. It is taken as indicating independence of the method of observation. As applied to world hypotheses, the idea would be that if there are any features invariant in respect to different metaphysical perspectives these are surely objective features independent of all interpretation. I wish preliminarily to point out that invariancy in itself is no empirical guarantee of anything. All fairy tales are invariant as regards certain characteristics of fairies. That does not establish the existence of fairies. Invariancy has empirical significance only when the divergent interpretations within which the invariancy occurs, themselves, have empirical significance. Then the empirical significance of the invariancy is that all of the evidence supporting these interpretations converges to the support of these invariances. That is indeed a matter of genuine empirical significance. But only so because it amounts to agreement in the testimony of witnesses whose reliability has been tested.

You can not tell where world hypotheses agree in their findings until you have the hypotheses. Invariancy, consequently, is not available as a means of obtaining the categories of a philosophy

since it is only by means of the categories that invariancy is discovered. Consequently, an appeal to invariancy in support of some set of categories is a reversal of method. Where there is doubt about the facts on account of different conceptual interpretations of them, the invariancy of certain descriptions in respect to the diverse interpretations is evidence of the truth of these descriptions. But the invariancy of the descriptions is not evidence of the truth of any of the diverse categories in terms of which the descriptions are made.

So, I repeat, universality is not an indication of a metaphysical category. In any of its various senses, it contributes nothing of special evidential weight to a concept to which it is attached. In fact, stress upon it is rather an indication that we should employ particular care in examining the evidence to support it.

This brings us to a final question. What are metaphysical categories for? Are they concepts endowed with the greatest amount of evidential support? Hardly. For such concepts as "tulip" or "mammal" are probably more secure in their evidence than "event," "quality," or "relation," or any other typical metaphysical category. We have just seen that categories are not necessarily the universal concepts of a theory in any of the principal senses of universality. What are categories, then, and what are they for? They are, I suggest, those concepts which most clearly and economically characterize a world theory, and differentiate it from other world theories. The same world hypothesis may be described by different sets of categories, provided each set characterizes the theory sufficiently. In that sense, and in that sense only, are the categories of a world theory its "indispensable" or "controlling" concepts. They are the concepts indispensable for an unmistakable description of that world theory. They are the concepts that control all the other distinctive concepts in the theory.

The function of a set of categories, then, is to furnish us with a quick grasp of the distinctive structure of a world hypothesis. A concept that can not assist in this function can not, on the present suggestion, function as a category.

This suggestion about the function of categories has a further bearing on universality. For we have just seen that the only plausible sense of universality for a concept in the rôle of metaphysical category would be the sense in which the concept is universal to all or a number of world theories. But if a concept is universal to a number of world theories, it is distinctive of none. Therefore, a universal concept in this sense could not function

as a metaphysical category, in the only useful sense that we have found in which it could function.

To summarize, we have found (1) that universality can not without dogmatism be directly ascribed to features of the world by intuition or inspection or in any other manner than by hypothesis; (2) that universality ascribed to specific concepts of a world hypothesis does not necessarily render these concepts of any special significance for that world hypothesis, such that they should be dignified as categories in distinction from other concepts in the theory; (3) that the empirical function of categories seems to be only that of distinguishing one world hypothesis from another, so that concepts universal to all or a number of different world hypotheses are precisely those that could not function as categories; and (4) that universality stressed as a sign of special cognitive privilege for certain concepts irrespective of reference to some specific world hypothesis which might give some evidential weight to the attribution, is a means of removing these concepts from the sphere of empirical criticism, and is a philosophical fallacy. We have also observed that the term "universality" is highly ambiguous.

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BOOK NOTES

Understanding the World. An Introduction to Philosophy. MAX SCHOEN, H. G. SCHRICKEL, VAN METER AMES. New York: Harper and Brothers. 1947. xi + 638 pp. \$4 00.

In this day of worry, enthusiasm, and scepticism over general courses in the humanities, this book will have some significance. It attempts, in two large sections and one middling, to introduce the student to the manner in which men have tried to know, share, and enjoy what they have experienced. If this does not cover the universe, it certainly covers the universe of discourse, and in a surprisingly helpful way. But since the exposition is primarily historical, and studded with names and dates of even minor figures in many instances (Daniello, Fracastoro, Varchi, Hirn, Marshall, etc., Part Three), the *teacher* is more likely to find the book helpful as a compendium of notes for lectures than the student as an introduction to philosophy. If, however, the usual one-semester introductory course were extended to both semesters, and supplemented with reading in primary sources including drama and science, this book would be a valuable organizer even for the student, as the hub for the wheel of a humanities course.

Part One is a history (with some systematic comment) of philosophy as knowledge—"the world as known." It succeeds in getting much material into a fairly small space—though a chunk of two hundred and twenty seven pages of almost straight history is enough. It suffers a little from failure to give a sense for the overarching problems, especially in the portion on the pre-Socratics. Plato is given a quasi-Kantian interpretation, and his "receptacle" (p. 61) is put intermediate between the particulars of perception and the forms, instead of at the other extreme from the forms, with the perceptibles in between. Matter, for Aristotle, is said to be "always a particular kind of stuff" (p. 68). Kant is given considerably more space than any other single philosopher. Schopenhauer is barely mentioned, while numerous recent minor figures and technical developments are discussed (Brentano, Meinong, Husserl, etc.).

Part Two is devoted to morality and religion, which represent the second major factor, namely, "the world as shared." Again we are given pretty straight history of the subject (two hundred seventy pages), with a chapter of systematic introduction to the issues. Some unfortunate and unintended phraseology gives the student (if not the teacher, who knows that the authors are good Deweyites) the impression of traditional subjectivism in the authors' philosophy of religion. (Religion is described ambiguously as "a wholly human affair," p. 247.) The remarks on Catholicism's principle of tolerance for everyone in religious matters fail to indicate that this is to apply only while the Catholics are themselves one of the minorities; and perhaps there is too much emphasis on, and easy confidence in, the progress men could make by becoming aware of the "social basis" of religion, under educational controls.

Art, especially the history of esthetic analysis and judgment, gets treated in Part Three (one hundred ten pages). This is the story of man's experience of "the world as enjoyed." The instrumentalist tendency to treat art as a comprehensive solvent for all distinctions is exhibited in the failure to admit any clear difference between it and science and religion. ("The prime conditions of science are cooperation and communication," p. 505; religion celebrates and enhances values. But both these statements are true of art.) And even if it is added that religion celebrates the "overarching and lasting values" (p. 507), a distinction is yet to be made between the religious way of doing this and the artistic. Great art is concerned with precisely the same values, but articulates them in a dissimilar way. And of Homer the book says, in commenting on the ancient esthetic sense, that he "has an eye only

for the gold and glitter of the palaces of the Phaeacian king" (p. 509). What the authors meant to say is fairly clear, but there are careless statements like this scattered here and there, in which they lead unnecessarily with their chin.

In conclusion, one important merit of a historically oriented introductory text such as this may be mentioned. Any course in the *history* of philosophy, coming after an introduction in which *Understanding the World* was the text, will have to be more penetrating than usual, to get the student sufficiently beyond the point he reached in the beginning course.

V. C. A.

The Doctrine of God in the Philosophy of Fichte. RUSSELL WARREN STINE. Philadelphia: University of Pennsylvania. 1945. v + 88 pp.

This is an excellent piece of work. It presents a difficult topic, an important, indeed central, doctrine of Fichte's with thoroughness and scholarly acumen. Tracing Fichte's theological development through the various phases of his writing in which he appears to change his viewpoint, Dr. Stine concludes that "a careful study of the works of Fichte, however, reveals that while the terminology varies, he was constantly seeking to express the same fundamental thoughts. God and the empirical world are reciprocal terms." In his final chapter the author points out "the rich and varied ways in which Fichte believed the conception of God could be recognized in human experience"—thought, sensation, morality, beauty, "The State."

The study was a doctoral dissertation presented at the University of Pennsylvania. Even without the dedication it would reveal the permeating influence of Professor Edgar A. Singer, Jr. It is a pleasure to quote here the words of the dedication which acknowledges Professor Singer's "sympathetic assistance and learned advice, . . . the constant motivation to approach the Ideal through the ideal of striving scholarship."

One bit of adverse criticism may be appropriate. Dr. Stine quotes some "standard" translations including some standard barbarisms. He could obviously have done far better himself.

COLUMBIA UNIVERSITY

JAMES GUTMANN

Art and Education. JOHN DEWEY, ALBERT C. BARNES, LAURENCE BUERMAYER, MARY MULLEN, VIOLETTE DE MAZIA. Second edition, revised and enlarged. Merion, Pennsylvania: The Barnes Foundation Press. 1947. viii + 315 pp.

The re-edition of this collection of essays, which was first published in 1929, will be welcomed by all those who are interested in

We reprint the following notice from *Philosophy*:

"Last year an appeal was launched to provide for the founding of an Arthur Stanley Eddington Memorial Lectureship to commemorate Eddington's life and work, by providing for lectures on some aspect of contemporary scientific thought considered in its bearing on the philosophy of religion, or on ethics, and to be delivered periodically in Cambridge, or elsewhere, and to be published. The Foundation Trust Deed has now been completed, and the following four Trustees have been appointed:—Professor Sydney Chapman, F.R.S., representing the Royal Society; Professor C. D. Broad, Litt.D., F.B.A., representing Trinity College, Cambridge; Dr. Kathleen Lonsdale, F.R.S., and Dr. W. H. Thorpe, representing the Society of Friends. Mr. Howard Diamond, A.C.A., 45 St. Barnabas Road, Cambridge, is Honorary Treasurer and Secretary to the Trustees.

"The Fund is still open, and approximately £1,000 is now needed for its completion. It is hoped that the first lecture on the Foundation will take place towards the end of the present year."

We reprint the following notice from *Dialectica*:

"The undersigned met, on December 21, 1946, in the house of Ferdinand Gonseth in Zurich, and they agreed to found the *International Association for the Study of Logic and the Philosophy of Science* (Société internationale de logique et de philosophie des sciences).

"They decided to consider themselves temporarily as the Committee of this Association, in the conviction that they were thereby acting in accordance with the intentions of certain European logicians and philosophers, among them especially I. M. Bochenski and E. Beth, who were the first to express their agreement with the suggestion to found such an association. They elected Karl Dürr as their secretary, whose first task will be to contact a number of persons and societies with the request for their co-operation. The temporary Committee intends to transfer its functions to an elected Committee as soon as it is possible to arrange for elections. The temporary Committee will draft a constitution for the Association and it will submit this constitution to the elected Committee for its approval. Meanwhile Zurich will be the seat of the Association. K. Dürr, K. R. Popper, P. Bernays, F. Gonseth."

Further information may be obtained by addressing Professor Karl Dürr, Freiestrasse 111, Zurich 7, Switzerland.

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THE JOURNAL OF PHILOSOPHY

PROBABILITY AND MEANING¹

IF, as we normally suppose, philosophy has any concern with knowledge or with truth, it is clear that the problem of meaning is and must be central in philosophy. This is so for the simplest of reasons: we can not even attempt to determine the truth of a statement unless we understand it, grasp its meaning; and, of course, even less can we actually determine the truth of any statement unless this knowledge is in our possession. This much is generally agreed upon. The difficulties arise when we attempt to determine what we shall mean by "the meaning of a statement," and how we shall determine what it means, if anything.

A measure of agreement has been reached in our time on this point—at least among those philosophers whose main concern is knowledge, or at least its conditions. The point of agreement is that in some sense the meaning of a statement is one with the facts, conditions, states of affairs, from which the truth of the statement follows. In general, this position rests on the fact that whenever we do succeed in indicating or pointing out the meaning of a statement it is by denoting some state of affairs which is one with the conditions which make the statement true, with the fact which verifies the statement.

This is, of course, no accident. It follows clearly from our notion of truth. Various attempts have been made to define "truth," in terms of correspondence with fact, in terms of consistency, in terms of success in practice. I do not propose to enter into the familiar debate, but only to show briefly the reasons that may be given for rejecting certain of these formulations. The decisive test would seem to be that a definition to be acceptable must imply a certain equivalence of the form: a statement "*S*" is true if, and only if, *S*, where the first "*S*" put within quotation marks designates the statement whose truth is under discussion, and where the second *S* without quotation marks functions to describe certain conditions. Concretely (the example is used by Professor Alfred Tarski,² to whom this formulation is due), the

¹ Read at the meeting of the American Philosophical Association, University of California, Berkeley, December 28, 1945.

² See his "The Semantic Conception of Truth and the Foundations of Semantics," *Philosophy and Phenomenological Research*, Vol. IV (1944), pp. 341-376.

statement "Snow is white" is true, if and only if snow is white—truth being a predicate of statements and white a predicate of snow, the familiar, fluffy, cold stuff.

Any definition of "truth" which does not imply such an equivalence is unsatisfactory for it would permit the statement "*S*" to be true, even if not *S*. In terms of our example, using any definition of truth which does not imply this equivalence, it would be possible that the statement "Snow is white" is true, even though snow is not white, provided that some other condition held, determined by the particular definition used. Thus, in a certain formulation of the pragmatic conception we could say: the statement "Snow is white" is true, even though snow is not white, provided that our assumption that snow is white led to whatever successes in practice the pragmatic conception is supposed to rest upon; and similarly for any other formulation of the notion of truth different from the one adopted.

Accepting such a notion of truth as is involved in our equivalence, we can see at once that the meaning of a statement must be one with the conditions which, if they occurred, would make it true. Thus the meaning of the statement "Snow is white" is the condition referred to by that statement. Only because the statement means this condition, can we infer that the statement is true, given that condition. It would be utterly incomprehensible that any statement "*S*" should mean one thing and be made true by another. Only because a statement means *what* it asserts, can we affirm its truth if what it asserts does exist. If we are uncertain as to the meaning of a statement (that is, if we have not yet given or had given any precise meaning to a statement) our procedure is and must be to decide what conditions must occur if the statement is to be true. These conditions will constitute the meaning of the statement.

The apparent exceptions to the identification of the meaning of a statement with the conditions whose existence would make the statement true, are due to our failure to notice the difference between direct and indirect evidence for the statement. When we identify the meaning with the fact whose occurrence would make the statement true, we refer to the fact from whose existence the truth directly follows, without any inference.

Where we infer the truth of a statement from some condition different from the condition which is the meaning, we do so only because we have some reason to believe that the former implies the latter with some degree of probability. Thus, if our statement "*S*," which means some fact *F*, is alleged to be true, given the occurrence of some condition *g*, we do not say "*S*" which means *F*.

is made true by the occurrence of g , but that from g we can infer F , which alone determines the truth of " S ," which asserts F .

It may be supposed then that we are clear at least on the sense of our identification of the meaning of a statement with the conditions which must exist if it is true. This is, of course, just one among many possible formulations and it is in this sense perhaps that the formulation can be called a theory—"the verifiability theory of meaning," so-called; it is, of course, not a theory if to be a theory is to be a statement, say a hypothesis, about some, perhaps causal, aspect of the world, which might be determined true or false.

This criterion of meaning is familiar, and in our time is most closely associated with the so-called Vienna circle and, in a slightly different form, with the name of P. W. Bridgman.

A number of well-known writers who adhere to this general way of thinking have, in recent years, found reason to reject the original view, and have attempted to weaken or expand what we may call the verifiability criterion. It is argued by them that in science we never use the term "truth" but only "probability"; and this being so, there either is no point in basing the criterion of meaning on that of truth, or, what is sometimes argued, no sense in doing so. The view is that all scientific statements are at best hypotheses, and that it is a mark of scientific simple-mindedness to rest the meaning of a statement on its truth conditions, since we are never in a position to determine the truth of any statement. In fact some authors have gone so far as to eliminate the term "truth" from their vocabulary altogether, replacing it by "probability"; and they have argued that a proposition is meaningful if we are able to assign to it some degree of probability.³ It is this view that I wish to examine in this brief paper.

My questions are three:

- (1) Is it necessary to replace the verifiability criterion by one based on probability?
- (2) Is it useful to do so?
- (3) Is it possible to do so?

Presumably one could show that it is necessary to make the substitution only by showing that it makes no sense to speak of the verification of a statement, "verification" involving some kind of insignificance, whether based on a contradiction or some other source of nonsense. To establish this position it is necessary to

³ Even if their view were correct, it would suffer from the liability of being unable to tell us what a proposition means—a most important property of our conception.

show that there is no intelligible meaning of the term "verify" or "true," such that it makes sense to speak of the conditions under which a statement would be true or verified.

Now it would show a complete misunderstanding of the type of question here involved if anyone were to argue that there can be no sense in which it is correct to say that "a certain statement is true or is verified." It is hardly less mistaken to say that there is no such sense, since the term "true" is in common use, and we may suppose that when more or less intelligent people use it they can assign a clear meaning to it. Indeed, we gave such a formulation above when we said that a statement "*S*" is true if and only if *S*.

The only objection to this formulation can be that the expression "*S*" in the right-hand side of the equivalence can not be significant. Now this is to argue that no statement can be significant, for we can put any statement in place of that "*S*." If, for example, the expression "Snow is white" is significant, then it is significant to predicate truth of the expression "Snow is white"—and the same holds for any sentence. It has been observed that there is no special difficulty involved in the term "true"—we have as much, and only as much, difficulty in understanding the meaning of "true" as we have in understanding the meaning of any statement. If, thus, anyone ever understood any statement, then he understood or could understand what it means to predicate truth of that statement. And, conversely, if anyone ever correctly predicated truth of any statement, he understood the statement.

It can hardly be argued then that "truth" is itself a meaningless term. It may, however, be argued that since, as some allege, we never do "correctly" predicate truth of any statement, that therefore "truth" is so much excess baggage to carry about in our vocabulary. This is a more serious argument. The reasons for saying this were briefly mentioned earlier. In science it is claimed that "probability" replaces "truth." Is this the truth?

There are two senses in which this might be so. The first is that truth is a semantic, not a physical, predicate; that truth enters when we make statements about statements and is thus eliminable, "*S*" is true always being replaceable by *S*. Professor Tarski has shown that we can not completely eliminate the predicate truth in this manner; but assuming that it could be, it is exactly the same for the term "probability," which is supposed to replace it. Statements, not things, are probable, at least in the ordinary acceptance

* To avoid antinomies certain limitations are necessary here, but they do not affect this discussion.

of the term. I do not recall any sense of "probable" in which "probable" is used as a predicate of things; where this seems to be so, analysis shows that the expression is elliptical and actually about the statement made about the thing. It could, of course, be so defined that it becomes a property of things, but then we should be dealing with a totally new concept.

The second sense in which truth is a redundant predicate would be the sense in which in fact we never do verify any statement, but at best only determine its probability. This presumably amounts to saying that no one ever correctly and knowingly asserted that snow was white, on finding that it was; never knowingly or justifiably said that a certain new-born infant was a male; never truly and knowingly asserted that he was attending a meeting of the American Philosophical Association. At the risk of appearing unduly dogmatic I venture to assert that now and then this has occurred.

But of course this is no argument. Well, then, what is the argument? Chiefly that all statements are corrigible, that no matter what one has experienced, his statement about that experience admits of the possibility of error. Exactly what is intended by the assertion that possibly one is in error when saying, after proper examination, that a new-born infant is a male, that he is attending a meeting, and so on, is not easy to say. Sometimes it is only to say that the statement is not analytic or tautological; that its denial is not self-contradictory. But, if so, the point is quite irrelevant.

Sometimes the sceptical reservations are intended to take account of what other people report happened, as when one dreams of doing something which others assure us never took place; in other cases the scepticism is intended to describe still other occurrences. But in all these the doubt itself involves a statement, and the hypothesis of the error would seem to be self-defeating if the statement describing the error were not accepted as true. But if it is, then the concept of truth is reinstated, while if not, the doubt may be ignored, since if no one was ever in a position to determine that he or someone else made a mistake in judgment, we need not worry about such scepticism.

Just as the quest for certainty had, it is alleged, a fatal fascination for philosophers, to their discredit, so the modern quest for uncertainty is equally objectionable and foolish. We are well warned against unjustified, uncriticized beliefs, and we should be equally on our guard against unjustified disbeliefs. There is, after all, no difference between the two.

But enough of these dialectics—of value only against other

such arguments. Admitting that we may be mistaken, we must then know what it means in any given case to say we are mistaken and know at least some instance in which we are in error, and *that* is not a mistake. To this it is usually rejoined that it is only probable that we were mistaken, and furthermore only probable that it is only probable. One wonders whether it is really more probable that it is probable that it is probable that it is probable that it is probable—to the end of time and patience—than it is that perhaps at least once one observed as occurring what one stated was occurring.

On this point it may perhaps be concluded, with some degree of probability, that there is not much profit in such a view, and that in any case there is no necessity for it. But however that may be, we are interested rather in applying the concept of probability to the question of meaning. Waiving the question, whether or not there is much point in attempting to substitute probability for truth, we examine the *possibility* of widening the criterion of meaning so as to permit as significant, statements to which some degree of probability can be assigned, thus apparently going beyond the narrower view that only verifiable statements are meaningful.

In this, it is assumed that we do get a wider conception of meaning by virtue of the shift. Is this indeed the case? For if it is not, then the attempt to differentiate between the earlier formulations and the later and, we are given to believe, more tolerant conception must be considered a failure. To answer our question we must obtain a closer insight into the sense in which "probability" is used. It is used in the familiar sense of the frequency theory of probability. That is, probability is a fraction which expresses the ratio of the number of instances of the occurrence of some mark in some defined class of objects to the total number of members of that class. Thus, if the class be the class of newborn infants and the mark be the mark of the male sex, then the probability is the fraction which expresses the ratio of, say, males to total births, for the assigned place and time. (There is, of course, the familiar correction of this view which introduces the concept of the limit of this frequency, but as this does not enter into our considerations we may ignore this more refined conception, which has, of course, some well-known difficulties connected with it.)

Now, the frequency theory of probability has this undoubted advantage over all others, that it enables us to formulate probability statements which express genuine empirical knowledge—statements which we can use in arguments as premises for inferences to other matters of fact. But that it enables us to formulate

such material statements, expressing knowledge of matters of fact, does not permit us to infer that every statement which is called "a statement of empirical probability," is one; certain conditions must first be met.

The condition is not as one might suppose, that one have actually determined the correlations, the frequency—for this may well be assumed hypothetically—before we undertake to test it; and we may, of course, never directly test the probability statement, but allow it to function as a hypothesis, which we increasingly confirm or disconfirm. This assignment of a probable probability, whose correctness we test by testing inferences, i.e., by checking the truth of predictive statements derived from the hypothesis, may well be called a "posit"; and we can agree with those who insist that they constitute admissible and indeed useful elements in science. But this is an admissible procedure only if we know what would be the case if the number posited were the correct number.

What we demand of any view based on the frequency interpretation is that the frequency be determinable, at least theoretically; we no more require that it be determined than in the so-called "verification theory" we demand that a meaningful statement be verified, but only that it be at least theoretically verifiable. Now, in normal probabilities the number is determinable by methods which fix the ratio of favorable to the total number of cases (the procedure for assigning the number is, as was noted above, a bit more complicated when we consider the procedure for determining the limit of the frequency). This determination is possible only under the conditions that the members of the class be themselves open to observation—at least in theory. This condition is met in those simple and proper cases when we determine that, say, the probability that an infant will be male is 54/100. The members of the narrower class of males and the wider class of infants are observable and countable. In such simple cases as this, it is clear that we require no extension of the criterion of meaning; for "*x* is an infant" and "*x* is a male infant" are forms of directly verifiable statements, and we require no broader or more tolerant criterion of meaning to apply to them. The real difficulty arises when one term in the relation is not observable.

The by now classic, and indeed odious, example is the attempt to assign a probability to statements about the experiences of other minds, in which the expression "experiences of other minds" is not interpreted behavioristically, but, shall we say, "introspectively." As is well known, there is no problem involved in the statement that someone other than the speaker is, say, conscious. The familiar tests can be applied and unless we have not made

clear to ourselves what we mean by the predication of consciousness to another animal, we have no difficulty in determining the truth or falsity of the statement directly.

The critical issue arises when we wish to attribute consciousness to others, as it is applied when we make statements about ourselves. Just what that sense is it is difficult to say, but in this argument it may be assumed that it is different from the behavioristic sense; its specification may be left to those who find the "problem" a problem. It is then argued that although it must be admitted that no one could, even theoretically, confront or describe the inner conditions which would hold if he were directly to verify the statement "so and so (i. e., someone other than the observer) is conscious," still it is possible to assign to the statement some degree of probability and with it meaning. Now, since it is believed by many to be vastly important to be able to say that someone else is conscious in the non-behavioristic sense,⁵ this is supposedly a decided advantage of the broader over the narrower interpretation. (It is by no means clear why a particular sequence of words should be so precious, especially to a scientist or philosopher who might be supposed to see through the language he uses to the meanings, if any, which are not affected by the language.)

What we wish to determine here is how we establish the probability of the statement that "so and so is conscious" in the desired sense. Clearly what would be required is the observability of both terms of the correlation, at least theoretically; we do not demand that anyone ever has observed them, as was pointed out earlier. We have to interpret in some empirical sense statements of the form "*x*" implies "*y*" with some degree of probability, when by hypothesis what "*y*" asserts is nothing that we have ever or could ever observe.⁶ We could establish the required correlation only if we could observe that whenever *x*'s then *y*'s with a certain frequency; this is the only method of establishing implication relations which are to express some empirical knowledge. And we could understand the assertion of the implication when we "posit" it without ever actually determining it, only if we knew what would be the case if it were determined.

My point is simply this: we can not assert that any evidence constitutes ground for an inference unless we understand what

⁵ It is perhaps unnecessary to point out that in attempting to determine the meaning to be attributed to statements about "other minds" we are not making any denials about them, certainly not that other people are not conscious in the intended sense—whatever it be.

⁶ If we are in error in this example, the argument may be transferred to any appropriate statement in which the intended principle is involved.

would be the case if the proposition which describes the inferred occurrence were true; if "*x*" and "*y*" are verifiable propositions, then we can meaningfully assert that "*x*" implies "*y*" with a certain probability, even if we do not know that it is true, although we have no grounds for asserting the implication unless we have observed some cases of "*y*" being true when "*x*" is true. But if either "*x*" or "*y*" is not a verifiable proposition we can not assign any meaning to "*x*" implies "*y*," since we should never know what the *x* or *y* is which we assert to stand in the relation of implication.

Thus the verifiability principle is involved in every instance in which we legitimately assert that a statement is meaningful if we can assign some probability number to it, for we can assign such a number, at least if we base our action on the frequency theory, only if we know the meaning of the implied statement, which is connected by some implication relation with the statements which are offered as evidence for it.

We conclude, then, that (1) it is not necessary to give up the verifiability principle in favor of a weaker or more tolerant one based on probability; that (2) it is not useful to give up the verifiability principle for the one allegedly based on probability; and that (3) it is not possible to give up the verifiability principle for the one allegedly based on probability, for the simple reason that there is no such thing. Where probability is used, it is a function of truth, and thus rests on the verifiability principle; and where it is not so based its use is insignificant, as incompatible with the frequency theory.

DAVID RYNIN

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NATURALISM AND THE APPRECIATION OF NATURE

IN the development of modern naturalism in philosophy I find a pervasive neglect of a theme that has particular significance for the naturalist viewpoint. That theme is the simple appreciation of the infinite beauty of our natural world and the implications of such appreciation for a naturalist philosophy.

The naturalist metaphysics puts constant emphasis on the fact that the great realm of Nature constitutes the totality of things and is man's sole and sufficient home. Naturalism makes a point of showing that man and his mind are evolutionary products and just as natural as atoms, stars, trees, tigers, or anything else. It resolutely rules out all the traditional dualisms that have created an

unbridgeable gap between man and the rest of nature or between life and inanimate existence.

While I count myself a firm supporter of this naturalist world-view, I believe that the naturalists, in their perennial struggle against the old ontological dualisms, have tended to overlook or under-stress certain aspects of the wholly natural dualism between man and non-human nature. (This non-human nature I am here spelling with a small "n" in order to distinguish it from that universality of existence which includes the human race.) Man can be conscious of himself as an integral part of the immense universe of Nature and at the same time admire and marvel at the incomparable beauty of the non-human world, feel deeply in the presence of the natural loveliness all around him, be struck with awe and wonder at the sweep and splendor of mountains, sea, and sky.

Though some of our American naturalists talk now and then about cosmic piety, there is very little in their writings that develops the possibilities of nature as an esthetic object or that draws upon the unceasing variety of beauty in the natural world to illustrate and illumine technical philosophic discussions. For instance, in that recent and representative symposium, *Naturalism and the Human Spirit*, there is not a word that I can recall concerning the value of nature appreciation in a naturalistic philosophy. Professor Max C. Otto is an exception to this tendency I am decriing and began his book, *The Human Enterprise*, with a chapter entitled "Meditation on a Hill," which sketched in diverse nature scenes as stimulus and background to thought. Yet the noted British writer, Lancelot Hogben, in a generally favorable review, expressed the opinion that this first chapter would give readers the impression that here was "just another book by a nice old gentleman with white hair and a kindly, dreamy smile."¹ Mr. Hogben's reaction is, I fear, typical of many thinkers who regard such references to nature as somehow sentimental and out of place in a modern philosophy of life.

Now I believe that some attention to nature as a thing of beauty can serve an important function in any well-rounded philosophy. But such attention has a special relevance for naturalism. There are at least two reasons for this. First, the naturalistic metaphysics denies the existence of the supernatural and claims that the universe as such is neutral to human values and ideals. This objective and tough-minded view of things can hardly fail to induce in the most rugged thinkers their moments of feeling that man is somewhat insignificant within the vast sphere of Nature and his destiny a somewhat lonely one amid the unending spans of space

¹ *New York Herald Tribune Book Review*, March 2, 1941.

and time. Second, naturalism, with its continual and necessary emphasis on science and scientific method, has tended to seem a rather bleak and unpoetic philosophy relying primarily on abstract scientific formulas and an uninspiring matter-of-factness. It always runs the danger of appearing to be too intellectual, too sophisticated.

The conscious appreciation of nature can do much to offset such reactions to naturalism and to further the naturalistic aim of helping men feel at home upon this earth. There is a wealth of evidence to show that a keen responsiveness to natural beauty not only excites in human beings experiences of the most intense and pleasurable kind, but also often arouses in them a sense of profound kinship and oneness with nature in its changing moods. It is the poets who have best described the multitudinous patterns of color, sound, and motion in the natural world and who have given most eloquent voice to the effects of nature's beauty and grandeur upon the human heart and mind. Among the poets, in my opinion, it is the English nature poets of the early nineteenth century,² notably Keats and Shelley, Byron and Wordsworth, whose achievement is greatest in these respects. And of them all, Wordsworth stands out as pre-eminent. For mastery of language, variety of image, and sincerity of expression, I do not think that any poem dealing with nature has ever surpassed his *Lines Composed a Few Miles above Tintern Abbey*.

For the purposes of this discussion, however, I prefer to quote certain passages from Lord Byron that exemplify both virtues and defects in his attitude toward nature. Since there was little of a religious note in Byron's work, he frequently wrote quite naturalistically of absorbing the beauty of nature into one's inmost being and of mingling in harmonious unity with the universe. Thus in *Childe Harold's Pilgrimage*:

Are not the mountains, waves, and skies, a part
Of me and of my soul, as I of them?
Is not the love of these deep in my heart? . . .³
I live not in myself, but I become
Portion of that around me; and to me
High mountains are a feeling, but the hum
Of human cities torture. . . . The soul can flee
And with the sky, the peak, the heaving plain
Of ocean, or the stars, mingle, and not in vain.⁴

² For a detailed and penetrating discussion of these and later nineteenth-century poets of nature, see Joseph Warren Beach, *The Concept of Nature in Nineteenth-Century English Poetry* (The Macmillan Co., 1936).

³ *Childe Harold*, Canto III, Stanza 75.

⁴ *Ibid.*, III, 72.

Where rose the mountains, there to him were friends;
 Where roll'd the ocean, thereon was his home;
 Where a blue sky, and glowing clime extends,
 He had the passion and the power to roam;
 The desert, forest, cavern, breaker's foam,
 Were unto him companionship; they spake
 A mutual language, clearer than the tone
 Of his land's tongue, which he would oft forsake
 For Nature's pages glass'd by sunbeams on the lake.⁵

Now Byron, who during much of his career felt himself to be an outcast, was also, as indicated above, constantly thinking of nature as a refuge from human society and from the hubbub of urban existence. But while boredom and intolerance have not yet been eradicated from human intercourse and while the fury and clatter of cities has enormously increased since Byron's day, I do not conceive of the normal appreciation of nature in terms of escape from either men or machines. Rather it is an esthetic pleasure, a spiritual delight, and a simple, rewarding way of recreation. Like any other kind of recreation, it of course often takes the form of a temporary withdrawal from the concerns of every-day life.

Another point about Byron, as typified by the second stanza quoted, was his preference for the wild, the remote, and the untamed in nature. These melodramatic aspects of the natural world have their own appeal and can indeed be most fascinating, but in the objective estimation of esthetic value there is no reason for promoting them to a special position. The scope of natural beauty is as wide as the range of beautiful objects, large or small, near or far, wild or cultivated, static or in motion. Furthermore, in our philosophy of appreciation there certainly must be a place for the experience of beauty in nature merging with that of human creation, as when we view the George Washington Bridge against a background of river, sky, and cliff, or London in the shining splendor of the morning sun, as described by Wordsworth in his sonnet *Composed Upon Westminster Bridge*.

My reservations as to Byron's treatment of nature lead to the general observation that all the chief nature poets of his period belonged to the Romantic school of literature and exemplified to one degree or another the obvious shortcomings of the Romantic movement. They were all inclined to over-state the case for non-human nature, to idealize it in a manner reminiscent of Rousseau, and to over-emphasize the good consequences for human character and conduct of closeness to nature and sensitivity to its beauty. Certain professional philosophers have made the same mistake. For

⁵ *Ibid.*, III, 13.

example, Immanuel Kant in the *Critique of Judgement* stated: "I maintain that to take an immediate interest in the Beauty of Nature (not merely to have taste in judging it) is always a mark of a good soul."⁶ And Schopenhauer wrote in *The World as Will and Idea*: "A beautiful view is therefore a cathartic of the mind, as music, according to Aristotle, is of the feeling, and in its presence one will think most correctly."⁷

The thoroughly naturalistic appreciation of nature that I am suggesting does not share in these exaggerations and sentimentalities of Romanticism. It decidedly does not set up the non-human world as somehow more worthy of attention than man or as esthetically superior to art. Nor does it indulge in the pantheistic and sometimes supernaturalistic overtones that Wordsworth, especially, was prone to bring into his poetry. So far as later British poets are concerned, Swinburne and Meredith, both of whose mature nature poetry appeared after Darwin's *The Origin of Species*, came fairly close to a genuine philosophy of evolutionary naturalism.

Turning to America, we find much first-rate nature poetry in Bryant and Whittier, Emerson and Whitman, with transcendental or idealistic influences markedly present in the work of the latter two. Without stopping to analyze these nineteenth-century American writers, I want to come direct to a contemporary poet who has given expression to a clear and uncompromising naturalist viewpoint. I refer to the late Arthur Davison Ficke and his superb sonnet-sequence *Tumultuous Shore*, which seems to me a notable instance of naturalistic responsiveness, warm yet objective, to natural beauty. Consider these lines:

And if he die! He for an hour has been
 Alive, aware of what it is, to be.
 The high majestic hills, the shining sea,
 He has looked upon, and meadows golden-green.
 The stars in all their glory he has seen.
 Love he has felt. This poor dust that is he
 Has stirred with pulse of inward liberty,
 And touched the extremes of hope, and all between.
 Can the small pain of death beds, can the sting
 Of parting from the accustomed haunts of earth,
 Make him forget the bounty of his birth
 And cancel out his grateful wondering
 That he has known exultance and the worth
 Of being himself a song the dark powers sing!⁸

⁶ Kant, *Selections*, ed. by Theodore M. Greene (Charles Scribner's Sons, 1929), p. 439.

⁷ *Supplements to the Third Book*, Chap. XXXIII.

⁸ Sonnet XXVI, reprinted from *Tumultuous Shore* by Arthur Davison Ficke, by permission of Alfred A. Knopf, Inc., copyright 1942 by Arthur Davison Ficke.

In the field of philosophy itself Lucretius' magnificent descriptions in *On the Nature of Things* still remain the outstanding example of naturalistic nature appreciation. The opening lines of the Proem to Book I set the tone. And there is hardly a page throughout the entire volume that does not make reference to the ever-changing forms and qualities of the natural world. Of course the great philosopher-poet of antiquity included in his descriptive sweep almost everything that we now assign to the realm of natural science. I am not urging modern philosophers to follow Lucretius here. None the less, in his approach to nature and in his constant allusions to its more beauteous aspects, he established a pattern that is most pertinent for contemporary naturalists and their writing of readable philosophy.

One of the most impressive sections in Lucretius is that part of Book VI in which he treats of great meteorological phenomena and extraordinary telluric manifestations. To a large degree his descriptions of earthquakes, lightning, thunder-bolts, hurricanes, volcanoes, and the Nile in flood come under the heading of what Edmund Burke called the sublime. In depicting these turbulent moods of a nature mighty and unrestrained, Lucretius makes us feel such a power and a glory in it all that we are ready to cry out: "Though nature slay us, yet is she ever most marvellous and beautiful!" Some years ago I had this precise feeling one summer's afternoon when I was walking along the Hudson River at the base of the Palisades during a brief but ferocious thunder-storm. The sky was inky black and poured forth torrents of wind-swept rain in slanting patterns; violent thunder-claps reverberated among the cliffs, and lightning flashes near and far lighted up the river in zigzag configurations. I had that exhilarating sensation of witnessing an awe-inspiring spectacle and knowing at the same time that there was a chance, however infinitesimal, of my being struck dead in my tracks at any moment.

As Lucretius tells us in a memorable passage:

. . . At such a time the densèd clouds
 So mass themselves through all the upper air
 That we might think that round about all murr
 Had parted forth from Acheron and filled
 The mighty vaults of sky—so grievously,
 As gathers thus the storm-clouds' gruesome night,
 Do faces of black horror hang on high—
 When tempest begins its thunderbolts to forge. . . .
 Then the thunderbolt,
 Now ripened, so to say, doth suddenly
 Splinter the cloud, and the awèd flash
 Sweeps onward, luminous with forked light

All places round. And followeth anon
 A clap so heavy that the skiey vaults,
 As if asunder burst, seem from on high
 To engulf the earth.⁹

The experience of finding nature full of wonder and fascination even when it directly threatens human life leads us to the threshold of religious mysticism. But it is not necessary to enter that door. Instead I would take the view that not a few of the reports of religious mystics can be legitimately interpreted in terms of a perfectly normal, this-worldly mysticism stemming from a deep sensitivity for the beauties of our natural environment. Fortunately, one does not need to be a professional mystic in order to know at first-hand the meaning of what I am loosely calling "normal mysticism." Professor James H. Leuba quotes the following from a "mystic" who might be any one of us:

Once when walking in the wild woods and in the country, in the morning under the blue sky, the sun before me, the breeze blowing from the sea, the birds and flowers around me, an exhilaration came to me that was heavenly—a raising of the spirit within me through perfect joy. Only once in my life have I had such an experience of heaven.¹⁰

Similar statements are a fundamental motif in a classic such as Thoreau's *Walden*. For example:

Sometimes in a summer morning . . . I sat in my sunny doorway from sunrise to noon, rapt in a reverie, amidst the pines and hickories and sumacks, in undisturbed solitude and stillness, while the birds sang around or flitted noiselessly through the house, until by the sun falling in at my western window, or the noise of some traveler's wagon on the distant highway, I was reminded of the lapse of time.¹¹

Most nature-lovers are not literary people who make records of their experiences. But the fact is that many ordinary persons who in the love of nature hold communion with her visible and other forms may in this process lose themselves in a veritable ecstasy of esthetic delight, so that they forget the passage of time and are lifted out of and beyond the regular flow of day-to-day existence. As an element in responsiveness to nature such normal, naturalistic mysticism is not unusual. And it can arise in a variety of ways, many of them of a very familiar kind, such as watching

⁹ *Of the Nature of Things*, translated by W. E. Leonard (E. P. Dutton & Co., 1941), pp. 259-261.

¹⁰ *The Psychology of Religious Mysticism* (Harcourt, Brace & Co., 1926), p. 207.

¹¹ Henry David Thoreau, *Walden or Life in the Woods* (Houghton, Mifflin Co., 1927), p. 96.

the sun go down in a cloud-filled sky, or looking up on a clear night to the Milky Way and the whole shining multitude of stars. A contributing factor to this sort of spiritual and esthetic experience is often simple, healthy activity, in fresh air and under the open sky, that stirs the blood and causes a pervasive glow of physical well-being. Emerson was right when he remarked: "Give me health and a day, and I will make the pomp of emperors ridiculous!"¹² Actually, the only essential equipment for the appreciation of the natural world is sound and acute senses, particularly a pair of good eyes.

Yet elementary and easily accessible as are so many of the forms of natural beauty, a specific urge or inclination to appreciate nature is not something innate in the individual or native to human society. In the Christian West the widespread appreciation of nature for its own sake came only in modern times. The Old Testament writers displayed an occasional awareness of the beauty of nature; and in the Book of *Psalms* this consciousness was quite marked. Their mention of natural phenomena, however, was primarily for the purpose of demonstrating the power and majesty of Jehovah. "The heavens declare the glory of God; and the firmament sheweth his handiwork."¹³ For the ancient Hebrews, as for the Christians of later eras, inanimate nature was chiefly significant because of what it manifested about the Creator.

The ancient Greeks, on the other hand, with their developed feeling for the beautiful in every sphere of existence, deeply appreciated as such the sensuous qualities of the external world. And their complex mythology interfered but little with this appreciation, since their pagan deities were associated rather pleasantly with landscape and nature. Also in China and India the established religions have been more favorable than Christianity to the love of nature. For they have encouraged the people of those countries to consider the beauty of nature as itself divine rather than, like traditional Christianity, to interpret it as merely revealing the divinity of a personal, transcendent God or as symbolizing the truths of supernaturalistic salvation.¹⁴

¹² Nature, III, "Beauty."

¹³ *Psalms*, xix, 1.

¹⁴ For the Christian attitude as compared with the Greek and Indian see Alfred Biese, *The Development of the Feeling for Nature in the Middle Ages and Modern Times* (E. P. Dutton & Co., 1905), pp. 1-65. Needless to say, the Christian interpretation of nature has not prevented magnificent descriptions of natural beauty such as occur in St. Francis of Assisi's *Canticle of Brother Sun*, Joseph Addison's famous hymn, *Creation*, or Gerard Manley Hopkins' *Pied Beauty*.

A further bar to the direct and simple love of nature in the West "was the conversion, by early Christian teachers, of the ancient gods of wood and spring into evil spirits, and of Pan into the Devil. Whereas in China the holy men retired to the mountains to be closer to the divine beauty of nature, in the West hermits who withdrew to 'deserts' were believed to be peculiarly subject to the forces of evil. Thus the forests and mountains and rivers of Europe were not only considered vaguely sinful, but positively dangerous."¹⁵ This association of nature with sin was also stimulated by the interpretation that Christian theologians gave to the consequences of Adam's fall and of the great flood as recounted in the Bible.

The more orthodox Christian view was that prior to Adam's transgression and the later deluge the earth was a perfect paradise and that it became far less attractive and beautiful after these disastrous events. As Calvin put the matter, God made the mighty water "overflow all parts of the earth, that wherever man should look, the atrocity of his sin should meet his eyes."¹⁶ Luther insisted that

we must speak of the whole nature since its corruption as an entirely altered face of things: a face which nature has assumed, first by means of sin, and secondly by the awful effects of the universal Deluge. . . . All creatures, yea, even the sun and the moon, have as it were put on sackcloth. They were originally "good," but by sin and the curse they have become defiled and noxious.¹⁷

A later and influential school of thought, culminating in the seventeenth and eighteenth centuries and including the English poet and divine, John Donne, claimed that originally the earth was an unblemished sphere, smooth as an egg, "with not a wrinkle, scar or fracture."¹⁸ The flood shattered and crumpled this state of perfection and resulted in ugly and undesirable phenomena such as seas and islands, valleys and mountains. In the passionate controversy that raged over this theory, mountains became the center of attention and were variously interpreted as "symbols of sin and decay, monstrous excrescences, poeks and pit-marks in the

¹⁵ Christopher Hussey, *The Picturesque* (G. P. Putnam's Sons, London, 1927), pp. 6-7.

¹⁶ Quoted by Marjorie H. Nicolson in "The Lord's Controversy," a chapter in her forthcoming and definitive book on this subject. In my analysis here I rely mainly on Professor Nicolson's account and am most grateful to her for granting me access to her material.

¹⁷ Quoted, *ibid.*

¹⁸ Quoted from Thomas Burnet, *Sacred Theory of the Earth*, in Andrew D. White, *A History of the Warfare of Science with Theology in Christendom* (D. Appleton & Co., 1896), Vol. I, p. 219.

fair face of nature." ¹⁹ All mountains, it was freely predicted, would be leveled on the Day of Judgment, in conformity with Isaiah's well-known prophecy that "every valley shall be exalted, and every mountain and hill shall be made low." ²⁰

The important point is that in the Christian tradition nature as existing upon this earth was considered to have become, owing to man's terrible wickedness, either a jagged, unshapely, repellent ruin in comparison with the original paradise or at least much less lovely and well-proportioned. This attitude toward the human environment was unquestionably influential in the common man's attribution of evil and fearfulness to the natural world and in holding back a proper appreciation of its beauty. Of course other elements, especially those connected with the material conditions of life, played a significant rôle in this situation. Lack of understanding of and scientific control over the more massively threatening forces in nature, such as storms, floods, earthquakes, and droughts, no doubt hindered men from comprehending the beauty of the natural world as a whole. Preoccupation with opening up the wilderness, the general pressures of pioneer life, and perils from dangerous animals lurking in forest and field had a similar effect. And we can easily see how insecurity and discomfort in traveling must have proved a serious obstacle to the enjoyment of scenery, including the much-abused mountains. Many of these factors still exist today in the less civilized parts of the globe.

Paradoxically, the advance of science and civilization, while clearing away certain fundamental impediments to the appreciation of nature, brings new ones in its train. Freedom to travel near and far, to see fresh sights and explore little-known lands, has increased immeasurably during the past century through the development of the modern railroad, automobile, steamer, and airplane. Yet the industrial revolution and the machine age have, in our economic system, so stimulated the growth of cities, so encouraged a psychology of haste and strain, and so overwhelmed men with new and pressing social-economic problems that they have perhaps done more to hamper than to help the appreciation of nature. In the United States, a country unsurpassed in the variety and magnificence of its natural beauty, close to sixty per cent of the population is urban. These 75,000,000 and more persons certainly do not on the whole maintain a close and continual relationship with nature. It is primarily the urban environment that enters vitally into their lives; and as individuals

¹⁹ Nicolson, *op. cit.*

²⁰ *Isaiah*, xl, 4.

these metropolitan millions do not have much choice in the matter. Inevitably the city milieu moulds their likes and dislikes, their enjoyments and recreations. To a considerable extent urban cultural standards permeate the village and agricultural districts; "even the American farmers . . . tend to be suburban rather than rural."²¹ Plainly, people who live in the country are not necessarily highly sensitive to the charms of nature.

Science during the last hundred years has greatly expanded man's vision of the amazing scope of the universe in space and time and greatly enlarged his knowledge of the relationship between him and the rest of nature. This recent science has opened up to man vast new regions of super-stars and galaxies; it has made him realize that in his very flesh and blood he is one with the dynamic and multi-structured matter that underlies the entire cosmos; it has demonstrated that he is cousin to all other living forms. On the other hand, the findings of Darwin and modern biology have revealed that the evolutionary upsurge has been a bloody business and that the process of natural selection has thrived on brutality and death. These biological facts have caused some, in a rather naïve and emotional manner to be sure, to turn away from nature in horror and disgust.

For the mature mind, however, the progress of modern science enhances and broadens the appreciation of nature that I am urging. It adds depth and meaning to that appreciation by helping man to see more clearly the sources of his being and the intimate interrelations between him and his cosmic matrix. These observations bring out the point that nature appreciation in and of itself, as a more or less isolated activity, does not meet the requirements of the philosophic approach. What I am seeking is the conscious integration of a deep-going awareness and enjoyment of natural beauty into an inclusive philosophy based on a naturalistic metaphysics: the recognition of nature appreciation as one of the pre-eminent goods that modern man can and should weave into a functioning way of life. My aim does not imply the worship of nature nor the well-known excesses of the Romantic attitude toward the natural world. In the Romantic poets, however, I do find a valid and substantial nucleus of robust nature feeling interpenetrated with reflection.²²

²¹ Walter Lippmann, *A Preface to Morals* (The Macmillan Co., 1929), p. 62.

²² I have not the space in this article to develop the extensive contributions of prose writers to the appreciation of nature or to consider the striking inter-relations between the evolution of modern landscape painting and of nature appreciation.

In this paper I have done no more than sketch some of the philosophic possibilities and problems involved in the appreciation of nature. Philosophy as criticism has the obligation to analyze current values and to call attention to any great lack in the lives of human beings. Today one such lack is a real esthetic and philosophic responsiveness to nature's beauty among considerable sections of mankind and especially among the busy, hurrying city-dwellers so characteristic of our age. For naturalism, on the positive side, there is in this connection a definite opportunity—to correct a lamentable one-sidedness in contemporary man and to round out human nature by making it entirely aware of non-human nature and the infinite potentialities in the natural environment. At the same time, the detailed analysis of nature appreciation can bring to naturalism a greater understanding of the meaning and scope of mystical experience; and also provide naturalists with essential background and a wider vision in the field of esthetics, for which the contemplation of natural beauty has many implications²²

Finally, the whole-hearted appreciation of nature serves to buttress effectively the naturalist outlook in general. Naturalism, in its opposition to supernaturalism and idealism, has necessarily become involved in numerous negations. By incorporating into its program a moderate stress on the beauty of nature, naturalism becomes able to make one of the most powerful and persuasive of all affirmations. And without yielding to animism we can suggest that external nature, including the myriad graceful and colorful forms of animal life, gives to those attuned to it a sense of kinship—sometimes even of companionship—that fits in well with the whole naturalistic philosophy. There is no heavenly Father in or behind Nature; but Nature is truly our fatherland.

In the framework of the naturalist world-view the ever-present glory of the visible natural takes the place of the traditional glory of the invisible supernatural. This is a fair exchange, and more; but its full advantages are lost unless philosophers and men rejoice profoundly in the inexhaustible beauties of their earth and universe.

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²² See, for example, John Dewey, *Art as Experience* (Minton, Balch & Co., 1934), pp. 28-29, 125-126; and Helen Huss Parkhurst, *Beauty: An Interpretation of Art and the Imaginative Life* (Harcourt, Brace & Co., 1930), Chap. III.

BOOK REVIEW

Wilhelm Dilthey: An Introduction. H. A. HODGES. (International Library of Sociology and Social Reconstruction.) New York: Oxford University Press. 1944. x + 174 pp. \$3.50.

Professor Hodges opens his work by remarking that "this is the first book on Wilhelm Dilthey to be published in England." His publishers, or at least the New York branch of the Oxford University Press, announce the volume with greater inclusiveness and equal accuracy as "the first book in English to deal with the work of the German philosopher Wilhelm Dilthey."

Just because this is a pioneer venture a reviewer should welcome it, particularly a reviewer who has long been interested in Dilthey's thought and has been puzzled by the strange neglect of a thinker who has been called "the most important philosopher in the second half of the nineteenth century."¹ One need not assent to this estimate of Dilthey in order to recognize that his position in Germany and elsewhere in Europe and the apparent influence of some of his ideas throughout the western world make it indeed surprising that this slender volume by Dr. Hodges is the first English book concerned with Dilthey's work. A reason for the otherwise inexcusable tardiness of the present review is that I had hoped in repeated readings to revise an unfavorable first impression or find some ground, other than novelty, for commending and recommending the book. But from every point of view it seems to me unsuccessful. Partly, I think, its ineffectiveness is due to Dr. Hodges' attempt to introduce Dilthey in two ways: first, by presenting his leading ideas in discursive exposition and, second, by offering numerous selected passages in translation. Either of these purposes, one would think, might have required more space than has been given the two together.

Dr. Hodges' Introductory Essay is divided into six chapters. The first places Dilthey historically and wisely emphasizes his relation to British and French philosophy, especially to Hume, Mill, and Comte, as well as to Kant and the post-Kantians, particularly Schleiermacher. Chapter II explores some of the distinctive aspects of the *Geisteswissenschaften* and this theme is continued in Chapter III with emphasis on Dilthey's contributions to psychological studies, and Chapter IV with regard to sociology. Chapter V advances these discussions and reverts to Dilthey's his-

¹ Ortega y Gasset, *Concord and Liberty*, New York, 1946, p. 131. Ortega here repeats a judgment concerning Dilthey which he made before in *Philosophy and History: Essays Presented to Ernst Cassirer*, edited by Klibansky and Paton (Oxford, 1936), p. 312.

torical position, and the concluding chapter also returns to Dilthey's relation to Kant, the post-Kantian idealists and the empiricists, and makes some comparisons with later philosophers, especially with R. G. Collingwood. Parts of the latter comparison are somewhat obscure. It seems to be based on general resemblances rather than specific relationship or influence and might well have gone beyond the assertion that Dilthey's teaching "is not unlike what R. G. Collingwood has been trying to say in recent years." Dilthey's influence on continental writers of first importance was by no means lacking in specificity. Dr. Hodges' insularity in this aspect of his discussion may be due to the circumstance that his initial presentation of Dilthey was made in the pages of the English clerical quarterly *Laudate*. He refers to this publication in his Bibliography but does not indicate the connection of what he wrote there to his present introduction. This is a bit curious since sections of the Introduction reproduce parts, sometimes several pages, of the *Laudate* version word for word.

Dr. Hodges, with whom one can readily sympathize in view of the difficulties which he faced, chose a solution which, unfortunately, seems the worst possible method of presentation. Instead of translating a major work by his author or even extensive parts of several, he decided to translate twenty-nine fragments, none more than a few pages in length and most of them hardly more than snippets. As stated, one can sympathize with the translator's predicament while deprecating his decision. Dilthey's works are complex to a degree and some of them are almost symphonic in composition and structure. A wise editorial policy would certainly not be easy to find. On the other hand Dr. Hodges' solution does seem almost the worst way out of the difficulty. If the brief selections had been organized in an introductory exposition their relation to one another would at least have been somewhat clearer.

Here the connection, or lack of connection, between the two parts of Dr. Hodges' text presents a further problem. There are a great many references to and citations from Dilthey's collected works in the course of Dr. Hodges' Essay but these do not seem to follow the sequence of the fragments in the second part of his book in any way. Most of these incidental citations are from the first, fifth, and seventh volumes of the *Gesammelte Schriften* and all but one of the Selected Passages are also from these three volumes. Yet neither in the order of presentation nor in any other ascertainable way have the two parts been connected with one another except by being bound in the same covers. Eleven of the selected passages come from Volume V of the collected works and many references to this volume appear in Chapters II and III of the

Introductory Essay though they are apparently devoted especially to the contents of Volume VII. From this volume, eight of the selected passages are chosen. Moreover most of these passages from Volume VII precede those from Volume V as presented here. There is no reason of chronology to account for all this and no other grounds are indicated or implied. Nor is there any explanation for the neglect of other works by Dilthey which Dr. Hodges himself includes among "Dilthey's principal writings" in his Bibliography.

This Bibliography fails to mention a number of articles which might well have been included in view of the paucity of writings on Dilthey in English. For example: articles by Julius Goebel in the *Journal of English and Germanic Philology* (Volume XXV), by Ludwig Stein in the *Philosophical Review* (Volume XXXIII), and by Horace L. Friess in this JOURNAL (Volume XXVI) and the *Journal of the History of Ideas* (Volume I) might well have been included among the scanty references available to a student who does not read German, under "Literature directly concerned with Dilthey."

Granting that, as a recent writer has well said, "translating at its best is, like every kind of art an act of grace, achieving the seemingly impossible,"² Dr. Hodges' translation of Dilthey is singularly graceless. I cite a few instances:

And when we place objects in the relations of cause and effect, for this too the sensory impressions contain only the condition, which lies in regular succession, whereas the causal relation itself again arises through a synthesis which springs from within us. [P. 133.]

As it follows the process of the shaping of such unconditional values, goods, or norms, it observes with regard to various of them how life produced them, but how the unconditional assertion itself became possible only because of the limitation of the horizon of the age. [P. 147.]

But if the volitional attitude determines the view of the world, then arises the schema of mind's independence of nature, or of its transcendence. [P. 153.]

I do not think that these sentences suffer by being read out of context.

More serious, perhaps, though doubtless more defensible in that it is a matter of opinion, is Dr. Hodges' translation of *Geisteswissenschaften* as "Human Studies." Granted that the term has no equivalent, the choice of "human studies" seems particularly unfortunate since it constantly suggests that the natural sciences, with which it is regularly contrasted, are not human. The "non-

² Franz Schoenberger, *Confessions of a European Intellectual*, New York, 1946, p. 178.

natural sciences," a phrase used by Dr. Julius Goebel in the article referred to above, is excessively negative for a key term, and I think Dr. Hodges did well to reject "mental sciences" which Dr. Ludwig Stein, among others, prefers. To have used John Stuart Mill's "moral sciences" would at least have been a recognition of Dilthey's great indebtedness to Mill. Dr. Hodges does not explain why he rejected "humane studies" or "humanities," the term used by Helene Weyl in her admirable translation of Ortega y Gasset's essay on Dilthey. Apparently he did not consider translating *Geisteswissenschaften* as "humanistic studies" which, on the whole, seems to me most acceptable. "Humanism" can certainly embrace the social studies and the humanities which are, I think, contrasted too sharply in the Introduction (p. 84).

It has been suggested that the neglect of Dilthey by the English-speaking world is surprising. A clue to the solution of the puzzle may possibly be found in a letter from Berlin written in 1867 by William James, in which he described Dilthey, whose identity he did not know:

Herr Professor ———, whose name I could not catch, a man of a type I have never met before. . . . The Prof. was overflowing with information with regard to everything knowable and unknowable. He is the first man I have ever met of a class, which must be common here, of men to whom learning has become as natural as breathing. A learned man at home is in a measure isolated; his study is carried on in private, at reserved hours. To the public he appears as a citizen and neighbor, etc., and they know at most about him that he is addicted to this or that study; his intellectual occupation always has something of a put on character, and remains external at least to some part of his being. Whereas this cuss seemed to be nothing if not a professor. . . . The sun waned low and I took my leave in company with the Prof. We parted at the corner, without the Prof. telling me (as an honest, hospitable American would have done) that he would be happy to see me at his domicile, so that I know not whether I shall be able to continue acquainted with a man I would fain know more of.*

Whether or not a clue to the neglect of Wilhelm Dilthey by British and American writers is to be found in these lines, I think we may well repeat what James wrote in his letter: We would fain know more of this man! Unfortunately Professor Hodges' book will do little, it seems to me, to advance this knowledge.

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NOTES AND NEWS

The annual meeting of the American Society for Aesthetics met September 18, 19, and 20, 1947, at the Baltimore Museum of Art, Baltimore, Maryland. The papers read are as follows: session on Poetry—"The Structure of Romantic Metaphor" by W. K. Wimsatt, "The 'Mode of Existence' of Literature" by Monroe C. Beardsley, "Contemporary Disguises of Badness in Poetry" by F. Cudworth Flint; session on the Common Ground of Aestheticians—"The Criteria of an Adequate Aesthetic Theory" by Henry D. Aiken, "On the Indispensability of Metaphysical Principles in Aesthetics" by Helmut Kuhn, "A Consideration of Morphology as the Common Ground for Aesthetic Theory" by M. C. Nahm, "Form, Objectivity and Pleasure in Aesthetic Theory" by Max Schoen; session on Painting and the Dance—"Trends in Contemporary Painting" by Lester D. Longman, "And Now Ultimism" by W. S. Rusk, "Some Comments on Consistency in Painting" by Helmut Hungerland, "The Art of the Dance" by James Feibleman; session on The Teaching of Aesthetics—"On the Content of a Course in Introductory Aesthetics" by Charles E. Gauss, "The Contemporary Art School" by Douglas MacAgy, "Discussion of Teaching and Aesthetics" by Irwin Edman.

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THE JOURNAL OF PHILOSOPHY

FACT AND UNDERSTANDING IN HISTORY¹

HISTORICAL inquiry seeks to convey knowledge about the past in the form of truthful statements. To ask about the values of historical knowledge could easily lead into discussion of philosophies of history. We might find ourselves, for example, engaged in disputation over the legitimacy of contending, as does Ortega y Gasset, that "Human life is not a thing, has not a nature, and in consequence we must make up our minds to think of it in terms and categories that will be *radically* different from such as shed light on the phenomena of matter. . . . Man has not a nature, what he has . . . is history."² Here a theory about historical existence involving a cleavage between matter and life, nature and human history, is made foundational to judgments about methods and aims of historical inquiry.

Explanations about what history-as-actuality is and what historical consciousness imports provide one kind of understanding, an understanding usually designated as philosophy of history. There are many such explanations and a history of them can be written. Were I to write such a history of ideas, I would argue that the kinds of concern shown about the past and the modes of appropriating the past to the present of each interpreter exhibited in every instance a determinate, historical situation—and hence that my own investigation was similarly relativistic and perspectival. This very disposition on my part would be indicative of how historical conceptions have come to prevail as categories of philosophical understanding. I recognize a similar disposition in Ortega y Gasset's assertion that what man has is not a nature but a history. The special claims which he attaches to man's consciousness of having a history would, none the less, be debatable even though we agreed upon the time-dependency of human enterprises.

A second kind of understanding, simply designated as historical, is that which is forthcoming as a contribution of history as written. A historian is said not only to present facts but to render once-actual happenings intelligible or meaningful. The

¹ Read before the Pacific Division of the American Philosophical Association, December 27-29, 1946.

² Quoted in Ernst Cassirer, *An Essay on Man*, New Haven, 1944, Chapter X, "History," pp. 171-172.

historian interprets the past to the present and it is the concern of history as knowledge that such interpretation be true as likely or warranted. The relation between fact and understanding, including within understanding matters of interpretation and truth, pertains to the methods of inquiry, the subject-matters investigated, and the status of results as constituting knowledge. Granted that philosophers do disagree about purposes and values of historical inquiry, no settlement need first be made of these disputes if one can arrive on methodological grounds at acceptable answers to the following questions: (1) What is historical fact? (2) Is truth in history radically different from scientific truth?

What is indeed disturbing, as a conflict occurring on the methodological level, is to find that another investigator of methods and results in historical inquiry discriminates the same conditions and traits of work but arrives at conclusions which are radically different from one's own. If reasoning in the course of analysis has gone astray, examination of each step could be expected to resolve our conflict. But the difficulty may not be methodological, for either one of us may have introduced some special claim about history which takes over the analysis to subserve this further interest. One may even argue that accounts of method in handbooks of historiography display at least three schools of thought and that oppositions stem from divergent valuations of the historian's task.

I do not deny that important differences in workability and fruitfulness can be discovered in relating differences of method in the study to results attained in the writing of history. What one is apt to overlook, however, is the good deal that is in common in conditions and traits of historical work upon which historians would agree. Here is an area to be examined antecedent to the quarrels of historiographical schools. With respect to the latter we have the asserted procedure of the "scientific" school which aims to set forth what happened just as it happened. It is maintained that analysis or criticism of documents yields only isolated, fragmentary facts for a subsequent synthesis of reasoning. History is then said to be an art (subjective science) of reasoning in the construction of interpretations but a descriptive science in the establishment of facts. The objective relativists maintain that hypothesis is operative in the selection and organization of facts with respect to question or problem being investigated. The first contention answers to the demand of historians for a science of history thought to be secured if facts are uninfected with interpretation. The second insists upon the conjunction of theory and fact in judgments of relevance and causality. A third school, derived from idealism, regards the task of the historian as one of recreating

the past. This task depends upon the sympathetic penetration of the historian into his materials which come alive as fact is infused with imagination and in this becomes a symbol of the life and spirit that produced the record.

I will suspend taking of sides to ask simply what is common to all historical inquiry in which facts are established and understanding attained. If, in this non-doctrinal attempt, another investigator comes to a conclusion at variance with what seems admissible to me, this would not prejudice matters upon which we did agree. Rather, in this agreement we could have grounds for settling dispute. The other investigator considered here is Ernst Cassirer in his book, *An Essay on Man*, Chapter X on "History." The disturbing conflict previously mentioned arose in the reading of this chapter. Cassirer discriminates the same conditions and traits of historical inquiry which appear to me to be inescapable and requisite features of historiography. Yet he comes to a conclusion which I think unwarranted as not required by nor implicated in the set of statements from which he derives it. I will present, first, the sense of these statements in a numbered summarization of each. They represent our agreement in answer to the question of what constitutes historical "fact." I will then turn to Cassirer's argument that historical truth as pertaining to interpretation and understanding is other than scientific truth. The argument occurs in the following context, namely, that although a geological history and a cultural history are both empirical in establishing facts, human history is non-empirical as understanding of the past. I shall argue that the statements upon which both Cassirer and I agree lead to a rejection of his conclusion. The statements follow:

(1) Since historians are concerned with knowledge, they seek to establish facts; hence they must study modes of knowledge by which these facts are accessible.

(2) We do not proceed in the same way to establish historical fact as we do to establish fact in a physical science.

(3) A statement of fact made by a physical scientist, e.g., that a specific substance has a specified melting point, refers us to observation and experiment if we have any doubt as to the correctness of the statement. Our reference is to the directly observable and measurable in statements of physical fact.

(4) If we call a past happening, which though once-actual is no longer existent, a historical fact, then it is a truism that such a "fact" of a perished past is gone save as it is remembered by someone or some record exists from which it may be known.

(5) An event or happening of the perished past is the referent of a historical statement but could be no fact which verifies it. No one has an access of "looking into" the past or of "seeing" what happened.

(6) What the historian has, or can come into possession of, is history-as record, the documents and artifacts that have been preserved. There are also in the practices and relations of contemporary society various signs and clues to earlier doing and occurrence. These conserved and continuant pasts-in-the-present are the materials of historical knowledge.

(7) It is from the critical study of such materials that statements of fact are derived. The correctness of such statements can not be established by any correspondence of what is asserted with what has perished. Correctness involves tests of relevance and reliability with respect to the materials as a body of evidence.

(8) Whether in the writing of a natural history or of a history concerned with the motives and actions of men, what is available as evidence is not only something physical as an object but also meaningful for historical judgment so far as it provides sign or clue to its production, how it came to be, and what it imports about its antecedents. As Cassirer puts it in speaking about human history, "Only through the mediation and intervention of these symbolic data can we grasp the real historical data—the events and men of the past."

(9) In speaking of historical fact, then, we should always keep clearly in mind that it is access to record which establishes a historical statement as a statement of fact about a perished past. The record is sign or symbol for the historian of a past reconstructed and represented from available materials. Historians' facts are the probation of record. Should some of the records be destroyed we would have to trust in the competence of men to whom they were available in accepting their statements based upon them.

(10) "Historical knowledge is the answer to definite questions." These questions to which answers are sought in history-as-record are, in Cassirer's words, "put and dictated in the present." That is, they are questions situationally or culturally conditioned by and arising from "the intellectual interests and moral and social needs" of living men.

It is from statements (8), (9), and (10), namely, the designation of historians' facts as symbolic data, the differentiation of facts from perished events, and the determinate situation of historical questions, that Cassirer proceeds to argue as follows:

When the scientist wishes to go back into the past he employs no concepts or categories but those of his observation of the present. He connects the

present with the past by following backward the chain of causes and effects. He studies in the present the material traces left by the past. This is, for instance, the method of geology or paleontology. History too has to begin with these traces, for without them it could not take a single step. But this is only a first, a preliminary task. To this actual, empirical reconstruction history adds a symbolic reconstruction. . . . Not in the logical structure of historical thought but in this special task, this special mandate, consists the fundamental distinction between the works of the historian and the geologist or paleontologist.

The difference between history of the rocks and the history of man, argues Cassirer, is a difference in the *object of history*. The object of the special task and mandate assigned to human or cultural history is characterized in such phrases as these: "the materialization of the spirit of a former age"; "the fusion together of fact" into "living form"; the "revivifying" and "rebirth" of the past; "a new intellectual synthesis—a constructive act." The events known to the historian, writes Cassirer, "are only the husk beneath which he looks for a human and cultural life—a life of actions and passions, of questions and answers, of tensions and solutions. . . . He cannot think or speak without using general terms. But he infuses into his concepts and words his own inner feelings, and thus gives them a new sound and a new color—the color of personal life."

Having introduced the subjectivity of personal infusion into historical understanding, Cassirer then exercises his acumen to solve "the seeming antithesis between the objectivity of historical truth and the subjectivity of the historian." In the end he agrees with Dilthey that historical thought and scientific thought are totally different "forms" of knowledge. He asserts that historical inquiry is *empirical or evidential in establishing that an individual performed some action and that the action had a certain consequence*; but the life, spirit, motive, and passion of the actor, the living form, must be a synthesis contributed by the constructive act of the historian—an infusion of "the color of personal life" supplied by his intuition. In short, a special understanding peculiar to cultural but not to natural history is supplied by the historian out of his inner experience.

If Cassirer had merely said that a history may be marked by the preferences and predilections of the historian who wrote it, that there is the stamp of his personality in the work, I should not take exception to this. What is questioned is his assertion that "self-knowledge" is "the very instrument of all historical thought," and that understanding of symbolic data is thereby subjective. The crux of the dispute here is Cassirer's elaboration of statement (10) which asserts the rôle of the present in the interpretation of the

past. As handbooks on historiography point out, the reconstruction of the past requires analogy. If our experience encompassed nothing similar to what individuals had aspired to, attempted, desired, felt, and suffered in the past, the products of their endeavors would provide no sign and clue of what went into their production. Recognizing this condition, however, is far from being committed thereby to subjectivity of understanding and to any radical separation between natural history and cultural history.

Langlois and Seignobos in their *Introduction to the Study of History* have this to say about analogy.

The realities of the past are things which we do not observe and which we can only know in virtue of their resemblance to the realities of the present. In order to realize the conditions under which past events happened, we must observe the humanity of today and look for conditions under which analogous events happen now. History thus becomes an application of the descriptive sciences which deal with humanity.

To organize facts derived from the study of records into a structure "it is necessary," write the same authors, "to imagine and group them in accordance with their resemblance to facts of the present day, an operation which also depends on the use of analogies." What is said about organization of facts by analogies in human history is equally pertinent to the writing of a geological history.

The geological historian is no more able than the culture historian to observe past conditions and processes. The only processes that he can observe are those now existent. These he can study, and in some instances measure, as processes of erosion, silting, and glacier movement. To reconstruct a geological calendar from stratification requires the hypothesizing of observed processes in their characteristics, including rate, as having gone on in the past, and the reading of present physical features such as glacial moraines as signs of a past process similar to that directly observed. One can not ascribe to a glacial moraine any intent of nature to preserve records of occurrence and to communicate by means of them; yet a glacial moraine is a record as affording sign and clue without which the historical past of present earth forms would be unknowable. The same can be said of the fossil remains dated by the geological calendar as symbolic data of paleontology. From processes directly observed and physical features as signs of precedent occurrence, geologist and paleontologist reconstruct careers of the earth in earlier times, sequence of periods, and how things have come to be as they are. There would be no basis for asserting otherness or difference about the earth in its past unless the record afforded signs of glacial advance and retreat; nor would there be knowledge about such advance and retreat as a time span without observed and

measurable process of glacial action. What is directly experienced and known provides the geological historian with his analogy, his empirical equivalent as hypothesis and argument for the reconstruction of the past.

Does the "human" in the history of man, the motives, purposes, values, aspirations, despairs, hopes, beliefs, interests, loves, and hates which pertain to his doings and sufferings, thrust inquiry into the privacy or subjectivity of a historian where introspection or intuition alone will enable him to organize a "living form" and thereby to understand facts derived from the human record? Or does human history, like natural history, employ analogy as empirical equivalent in a public, objective way?

Record and derived facts are historically significant when read as sign and symbol of the past. One need not assume, as many historians have, that human nature is unchanging in its basic social traits in order to proceed upon this assumed similarity to ascribe motives and passions to ancient Greek and Roman similar to those which prevail in his own conditioned cultural life. Rather, the fact that individuals are culturally conditioned in diverse ways, a fact established by descriptive social sciences in our own day, argues against supposing more than a similarity of sentient organism—a physiological sameness of need for food, of sex drives, and of capacity to suffer and enjoy. The task of the historian is one of taking the "rôle of the other," where "other" refers to modes of social life and production differing, as can be seen in the products, from our own. How, then, does the historian understand this otherness and these differences? The question is not peculiar to human history. How does a geologist understand our temperate zone in this country as once a tropical and once an arctic scene? For human history, characteristics of social existence directly experienced and known provide analogy—empirical equivalence or initially grounded hypothesis—about past producing with respect to which the record as product is symbol. The symbol in its features is generically akin to what we produce as artifact and document but in the many features in which it is particularly unlike our products a search is initiated for explanation of past beliefs and deeds.

History is had only on the level of symbolic interpretation, but this is no reading of inner experience. Inner life as an area open only to introspection is no less closed between two individuals facing each other than the inner life of Socrates long since dead for our knowledge now. Whether a product be culturally contemporaneous or inherited from a civilization that ceased to exist long ago, the inner stir it may arouse remains a private affair even

though an affective state could be said to contribute life and color to the historian's narration. Yet this casts no doubt upon these matters: that questions and problems which arise for the historian are situationally conditioned in objectively known ways, that the record is open to public examination, and that conditions of performance of other men in other times can be comprehended only by use of analogies. The important question is one of segregating speculative analogies from those that are empirical equivalents.

If it be established in descriptive science that political doings can not be severed from economics, the historian has in this an analogy as an empirical equivalent for the reconstruction of past occurrence with respect to conditions. On the one hand, he must be on guard against the retrospective fallacy of reading the present into the past by ignoring the historicity of current traits. On the other hand, in what is made known about our social existence, a lead is provided for investigation in which one hypothesizes a like connection, subject to the qualifications and specifications ascertainable from history-as-record. One may, indeed, set up a thesis by which to rig the account of past happenings. If there were not, in the empirical grounding of analogy and in the public nature of records, a basis for discriminating thesis-rigged history from warranted hypothesis, history as knowledge would be the worse off. There would certainly be no hope for deciding relevance and reliability of knowledge by appeal to intuitive self-knowledge as a truth-instrument of historical thought.

In point of procedures and results, competent investigators would not hesitate to say that Beard's work entitled *An Economic Interpretation of the Constitution of the United States* represents the testing of an hypothesis, whereas Spengler's *Decline of the West* is written to a thesis. For although historical reconstruction depends upon analogy, it is the mark of thesis in Spengler that his likening of society to an organism has not been established in descriptive science and hence is not empirical equivalent for reconstructing the past. The same could be said of the World-Historical Spirit in Hegel's *Philosophy of History*. Spengler and Hegel are extreme examples but the pertinency of having analogy empirical for knowledgeable understanding can be insisted upon for all historical inquiry at whatever level of generalization.

To insist, as Cassirer does, that human history is *human*, that man is an object other than rocks, emphasizes only that rocks do not provide empirical equivalence for human aspiration and activity. The insistence rightly warns against the apathetic fallacy of presenting human history in a reductive mechanistic or organic analogy, whether or not a thesis is involved. Care and concern,

intention and interest, are communicated by and interpretable from the products and remains of human effort. The documents and artifacts inherited from the past are things, but without an act of thought they would not be symbolic things. The act of thought is always that of some individual; but if the cultural and communicative nature of thought be kept in view, there is no occasion nor warrant for supposing that historical understanding is subjective rather than social. The historian is not driven to rely upon intuition, subjective infusion, and inner experience for organization and interpretation of historical fact. One need only be cognizant (1) of the implication of asserting historically determinate situations of "intellectual interests and moral and social needs," and (2) of the rôle of empirical equivalence by which a past is interpreted in a present to recognize that interpretation and truth are empirically grounded in historical inquiry. Truth in history is not radically different from scientific truth.

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ON THE CERTAINTY OF EMPIRICAL STATEMENTS

IN a recent issue of this JOURNAL, Professor W. T. Stace has argued that empirical statements are theoretically capable of the same sort of certainty as *a priori*.¹ There is much in his discussion which strikes me as wholly admirable—he holds that doubts about the principle of induction are not a proper basis for holding that empirical statements are merely probable; he shows that there is a sense in which both *a priori* and empirical statements are doubtful. So far, I believe, no sensible critic would disagree with him. His final conclusion, however, I can not accept, and for reasons which I believe Professor Stace himself would find congenial. Since the whole problem of the certainty of empirical propositions is basic in contemporary theory of knowledge, it seems worth while to go into enough detail at least to sketch a theory of the matter.

It may be helpful in the first place to distinguish two grounds or sources of uncertainty. The first may be illustrated in the case of adding a column of figures. Granted the rules of addition and the usual conventions of symbolism, it is an *a priori* statement that the sum of 962, 435, and 851 is 2248; yet, having performed the addition, I may be uncertain of the result. The ground of this

¹ "Are All Empirical Statements Merely Hypotheses?" this JOURNAL, Vol. XLIV (1947), pp. 29-39.

uncertainty may lie in the possibility of misapplying familiar rules, of treating, for example, a "5" as if it were a "6." Or, again, the mistake may be an error of memory, of forgetting what figure was being "carried" from one column to the next. Mistakes of this sort are not, of course, confined to arithmetic. In the heat of discussion I may mis-speak myself, choosing the wrong word to convey the sense I intend and may, in fact, say just the opposite of what I wish to.

A similar phenomenon, though it involves other factors as well, is found in the claim of many philosophers that their critics misunderstand them. Such misunderstanding is sometimes willful, and at other times is due to obscurity, but there seem to be some cases, at least, in which the philosopher, intent on making certain points, has magnified their place in his system, thereby giving a warped account of his position as a whole. Such a philosopher, re-reading his work in a perspective of years, might, if he were candid, admit that he had not said what he had intended. Warned by such examples, and assuming a standard sense of language, anyone might have doubts as to the correctness of his conclusions.

Here, then, we have a ground for uncertainty which, in the broadest sense of the term, might be called *linguistic*. It is characteristic of linguistic uncertainties that they are removed by performing over again the operations in which they are suspected. If I have doubts as to the correctness of an addition, I add again and repeat the addition until I get consistent results. If I doubt that I have said what I mean, I express my thought again and continue until I come to consistently equivalent statements. It is of course true that this procedure is not infallible. I may add a column half a dozen times and reach the same wrong result each time. Also, I fear, some of my ideas will never be expressed as they should be. This is a ground for claiming that all statements are infected with linguistic uncertainty, a sort of uncertainty no more characteristic of empirical judgments than of *a priori*. This point is made by Professor Stace and I concur wholeheartedly. If there is any basis for claiming that empirical judgments are merely probable in a sense that *a priori* judgments are certain, it must be that they involve a different ground of uncertainty. We turn to this.

Perhaps the commonest ground for uncertainty is insufficiency of evidence. It is for this reason that I am uncertain of the order in which the Platonic dialogues were written, or whether the Russians know how to make an atomic bomb, or countless other matters. Uncertainties of this sort are too well known to call for discussion, and may be referred to as *evidential* uncertainties. If evidential uncertainties are to be eliminated in any field, two conditions must

be fulfilled: (1) there must be a maximum, or limit of evidence, beyond which added evidence can contribute nothing; and (2) that limit must be attained. If evidence can go on piling up without limit, always contributing something more towards certainty, it is clear that complete certainty can never be attained. Or, again, if such a limit exists, but has not been attained, certainly will be lacking. Our question then becomes, how do empirical and *a priori* statements compare with respect to the character of their evidence.

In general, when a proposition is asserted in mathematics, it is asserted as holding in some system. The evidence for it is its proof and, assuming the proof to be correct and the logic of the system fixed (i.e., neglecting linguistic uncertainties), no further evidence can be given or demanded. A second proof might, to be sure, add to one's feeling of security in the result, but only because of possible obscurities or lacunae in the first proof, that is to say, only because of linguistic uncertainties. Added proofs might possess an elegance or economy of assumption that the original lacked, but the fact remains that the original was a proof and that there is no accretion of further evidence. Thus both the limit of evidence and its attainment seem possible in mathematics and deductive reasoning generally.

Exactly the same considerations apply to statements made on the basis of definitions. If the definition and the syntax of the language are given, then, neglecting linguistic uncertainties, no further evidence is possible. Even in the case of synthetic *a priori* statements, if such exist, conclusive and complete evidence is claimed, either in the form of an immediate intuition or of a compelling deduction. Thus in *a priori* knowledge generally, the conditions of complete evidential certainty are met. It remains to consider empirical statements.

Professor Stace considers two types of empirical judgments, generalizations and attributions of a predicate to an individual. I shall argue that, in neither case, can complete certainty be obtained, even neglecting linguistic uncertainties. It will be convenient to begin with generalizations.

We may take as a specimen generalization a statement of Aristotle's: "No insect with only two wings has a sting in the rear" (*History of Animals* 532a 22). What is being asserted here is that three complex characteristics, (1) of being an insect, (2) of having two wings, (3) of *lacking* a sting in the rear, are conjoined in such manner that whenever the first two are present, the third is present also. Since there is nothing in the definition of a dipterous insect which prevents its having a sting in the rear, the assertion must

be founded on observation. What is observed is the compresence of the characteristics. In any group of qualities observed to accompany each other on any given occasion, the compresence may be due to chance—they may just happen to appear together—or the connection may be universal, may be such that they always appear together. It is the latter that the generalization maintains. The evidence, however, is compatible with either alternative. The function of added evidence, i.e., more instances of the conjunction of the characteristics, is to decrease the probability that the joint appearance is due to chance and to increase the probability that the connection is universal. Thus the more diptera found which lack stings in the rear, the less likely that the examined specimens just happened to lack them and the more likely that Aristotle is correct.

It is clear, however, that any finite number of coincidences, however unlikely, is possible, so that the chance conjunction can never be completely ruled out. Thus any proof of a generalization must fall short of complete certainty. A judicious choice of instances on which to base the generalization may go far towards reducing the possibility of the effect being due to coincidence, but it can never obviate it.

The above discussion has proceeded on the assumption that certainty might be attained in a consideration of the individual instances from which the generalization was made. It assumed that, for example, in examining two-winged insects we did not include a mutilated bee or grasshopper by mistake. If certainty can not be attained in the instances, *a fortiori* it is unattainable in the generalization. It is to such particular situations, the second type discussed by Professor Stace, that we turn now.

Professor Stace takes as an example the statement "This key is made of iron." We may facilitate discussion by considering the simpler statement "This is made of iron." Professor Stace argues that, since iron is defined by a finite number of characteristics, a finite number of experiments, one decisive for each characteristic, should establish the truth of the statement. One such characteristic is being attracted by a magnet; thus, a magnet is brought near the object, and the test is completed.

Unfortunately, the matter is not so simple. In order for the test to be conclusive, it must be certain that it is really a magnet with which we have brought our object in contact. If there is no attraction, it may be because the object is not iron or because what I took to be a magnet actually is not one. To establish that the object is not iron, it is necessary first to establish that the putative magnet actually is one. One would be tempted in this case to conclude that since the presumed magnet is horse-shoe shaped, is

of appropriate size, and is painted red everywhere except at its polished ends, it is of course a magnet. But this could be done only on the assumption of the generalization that all such objects are magnets. Since, as we have seen, no generalizations can be certain, the certainty that I have a magnet can not be established in this way. Indeed, if I have friends who are both machinists and practical jokers, and if the date is near April 1, I can not even have practical certainty. Instead of relying on such generalizations, I may decide to test whether or not I have a magnet; I may, for example, bring it near a compass needle, to see if one pole of the magnet repels one end of the needle. But this in turn, if the test is to be conclusive, requires that I know that I have a genuine compass, and the same problem with which we were faced before recurs.

All this has been on the assumption that the test of attraction has been negative. If it is positive, the question is the same. If there is attraction, it may be because the original object is iron and is being attracted by a magnet, or it may be because the object is of magnetized steel or nickel alloy and is attracting an unmagnetized iron horse-shoe. Once again it is necessary first to determine that I have a magnet to make the test conclusive.

This account of the way in which one verifies that a thing has a characteristic leads to an infinite regress. In showing that the statement "This is iron" involves for its verification the statement "This is a magnet" and that in turn the statement "That is a compass" and so on, one might be led to expect that not merely certainty, but also any degree of confirmation would be lost in the un-ending process. What is required is to show that *not merely, negatively, there is no certainty attained in the process, but also, positively, that there is a gain in probability.* The key to such an explanation lies in what might be called statements of appearance. These constitute the one class of empirical statements which may be *evidentially certain*.

Examples of statements of appearance are found in statements like the following: "This looks red," "This tastes sweet," "That sounds like a Beethoven sonata," and the like. In each case an impression is being reported and nothing more. The statement "This looks red" is not disproved or contradicted if the object subsequently turns out to be orange and it may still be true that something sounded like a Beethoven sonata (to me and at the time) even though its author turns out to be Mozart or Haydn. Thus such statements can be certain just because they make no prediction and are not liable to refutation by the course of

subsequent experience. Since they make claims only about an immediate appearance, their evidence may be given completely and all at once, with resulting evidential certainty.

Such statements, of course, are not statements about objects and events, but merely about appearances; none the less, they have evidential value for statements about objects and events. Thus the first judgment² one might make concerning the statement to be confirmed in our previous example, "This is made of iron," is that "This looks like iron" or "This feels like iron." Such reports of appearances need not of course be conclusive evidence for the statement about the object, but it is hard to see how they can avoid giving some confirmation. Unless there were some acquaintance with iron, it would be impossible to make the judgment. There is of course the possibility of faulty recollection, misinterpretation of data and the like, but granted all these, the mere fact that an object looks like something to some one is some evidence that it is that thing.

This last statement calls for some explanation. Suppose I judge "This looks like a parrot." The judgment, we have seen, is a mere report of appearances, making no claims beyond itself. But it is also a datum for explanation, giving rise to the question: how does it happen that there is such an appearance? *Prima facie* the simplest answer is that I am confronted with a parrot, that "This is a parrot." As the simplest explanation this answer is to be preferred and the judgment of appearance constitutes evidence for it. This is not to claim that the evidence is overwhelming or that there may not be stronger evidence leading to a contrary conclusion, but merely that there is some evidence. If I am on an Arctic exploratory expedition, I shall very likely conclude that it was not a parrot I saw. That is, there may be other factors ruling out the *prima facie* simplest explanation.

I do not claim that whenever one is confronted with an appearance, one can make a judgment of appearance. In many cases the appearance is confused or one does not know how to classify it. Thus in attempting to adjust a radio amplifier, a person with only an ordinarily sensitive ear may be in doubt as to whether or not it sounds "true." He may be totally unable to make up his mind. In such cases one attempts to find another set of appearances which he can judge. Thus a more accurate method of tuning the amplifier is to feed impulses of a given form into it and connect the output to an oscilloscope. It is both easier and more

²I speak of "judgments of experience" rather than "statements of experience" to avoid the question of veracity. "Judgment" is used as a synonym for "statement believed to be true by the person making it."

reliable to see if the form on the screen of the oscilloscope looks the right shape than to judge if something sounds true. Similarly, one reason for reducing scientific measurements to pointer readings is that judgments of appearance are thereby made easy. Again, a good deal of the art of a craftsman or a connoisseur lies in the ability to make judgments of appearance more reliable and more refined than those of the average person. So, there is no claim that judgments of appearance are always possible, or equally possible for all people; merely that, when they can be made, they are evidence.

To come back to our original statement, "This is made of iron": the verification may go indefinitely into the future, involving "This is a magnet," "That is a compass," and so on; but there will be increments of probability through judgments, "This looks like iron," "This looks like a magnet," "What looks like a magnet appears to be attracting this," and the like throughout the entire procedure. If the theory sketched here is correct, the process of verification yields some increase in probability but never complete certainty. And if this is the case, there is difference in evidential certainty between *a priori* statements and those empirical statements which represent generalizations or ascribe a characteristic to an object.

One final objection remains to be considered: I have defined evidential certainty in terms of the limit of evidence. It may well be objected that this amount of evidence is not necessary and that one may have certainty with something less than this ideal maximum. Along such lines, one would probably define certainty psychologically, either in terms of a willingness to act or in terms of a feeling of certainty. It is beside the point for this discussion to enquire whether or not the two definitions are equivalent, or even to formulate them carefully. What is important is to notice that these represent perfectly correct and usual senses of the term and in either of them certainty of empirical statements is possible. In some such sense, I may be certain that Jones was down-town this afternoon when the only evidence is that I saw some one who, I thought, looked like Jones. In such a sense also I can fairly readily become certain that "This is made of iron."

Certainties of this sort might aptly be called *practical certainties*. Practical certainty has a down-to-earth, hard-headed character and a freedom from merely chimerical doubts which would *prima facie* recommend it as a working concept more highly than the sort of certainty which I have outlined above. In order to defend the earlier concept, I should like to show that it is definable in terms of practical certainty.

We may begin by noticing that practical certainty depends not merely on evidence but also on the use to which a statement is to be put. I may be genuinely and completely certain that Jones was down-town this afternoon and may be ready to bet you five dollars on it. If, however, you wish me to bet five hundred dollars against your five, I may refuse. My willingness to act may not go that far, if certainty is being defined in those terms. Or, if certainty is being defined in terms of a feeling, the feeling may have changed under the stress of the proposal. Again, even if I were willing to take this bet, I might balk at giving odds of a thousand to one. These situations, varying in the strain they place on a certainty, are merely evidence that willingness to act is always willingness to act in some context, and that willingness to act in one situation does not necessarily imply willingness to act similarly in any situation. In short, willingness to act is relative, and relative not merely to the evidence, but to the consequences of the action as well. The same considerations apply to certainties defined in terms of feeling.

It is worth noticing that if, in the situation we have been considering, the evidence is not strong enough to induce me to make a hundred-to-one bet, additional evidence would lead me to. If, for example, I had stopped Jones on the street and spent a few minutes talking to him, I might be ready to give the odds. Similarly, in the case of the bit of iron, procedures of confirmation which would ordinarily appear silly, might become perfectly reasonable if enough depended on the identification. There is no difference in kind, moreover, between an extension of the investigation which seems far-fetched and that part which seems a natural precaution. It is merely an amassing of more evidence of the same sort, with the amount of evidence required increasing with the stake. This would naturally suggest a definition of the sort of certainty discussed previously as the limit of practical certainties as the stake increases without limit.

Thus, whether completeness of evidence be admitted in its own right or defined in terms of practical certainties, it must be considered. Once admitted, it serves as a means of distinguishing empirical from *a priori* statements with regard to evidential certainty, even though there is no difference with respect to linguistic uncertainties. I should add that the division of grounds of uncertainty into linguistic and evidential is not meant to be exhaustive. Undoubtedly, there are others and one's total uncertainty is a compound of all these factors. Still, one dimension at least, none but empirical statements are uncertain.

EMERGENCE OF PURPOSE

DOES purpose, as causation of present by future, emerge? A positive answer is herein developed by treating three sets of concepts, cause and effect, events and duration, and mechanism and teleology, after the manner begun in "Organic Unity and Emergence," this JOURNAL, Vol. XLIV (1947), pp. 241-244.

Cause and effect. To be a cause is to produce an effect and to be an effect is to be produced by a cause. Pluralists tend to believe that reality consists of a series of events, each event being first an effect and then a cause, without there being any first cause, or *causa sui*, and any final effect or end of the series, and that effects are different from their causes. Monists hold that there is only one ultimate cause of all, and that since everything is ultimately one, causes and effects are really identical, not different. But for organicists, causes and effects involve both identity and difference. An effect is different from its cause, otherwise there would be only one event or entity and not two. But what can there be in an effect that was not already in its cause? In so far as an effect is different from its cause, its difference was not in its cause. But if its difference was not in its cause, it must be uncaused or self-caused. Does this involve spontaneous creation? While the view that in so far as an effect is different from its cause its difference was not in its cause is not the same as the view that an effect as a whole can come from nothing, it is likely to irritate both pluralists and monists. Yet, what other solution is there? The problem is not solved by ignoring it or by relegating it to the realm of ultimate mysteries. Pluralists are embarrassed by the problem of spontaneity both in explaining transition from cause to effect and in accounting for the whole series. Monists attribute spontaneity to the system as a whole, but are bothered about giving a satisfactory account of causation of different particulars. Organicists accept the fact of some spontaneity in *every* effect, rather than attributing it to, and only to, the whole series or whole system. But they also insist on some non-spontaneity in *every* effect, including each particle and the whole system. However, the differences between effects and their causes are due at least partly to their causes, for an effect can not be different unless there is something for it to be different from. Thus, there can be no complete spontaneity even though there must be spontaneity in some sense.

Emergentism adds to understanding of the nature of causation by its emphasis on levels. Whereas it is common to seek the cause of the behavior of a particular kind of entity in antecedent entities of the same kind, emergentists insist that it is equally important

to seek such causes in entities of other kinds, including those which make up both lower and higher levels. The behavior of a cell is caused partly by its biological antecedents, but also partly by its molecular, atomic, electronic, etc., constituents, and by its biological, social, terrestrial, solar, etc., environment. While scientists today generally are increasing their awareness of levels of causation, the concept is still not sufficiently generalized. As the part that each higher-level unit plays in the causation of lower-level units becomes more clear, acceptance of some identity of effect and cause becomes less bothersome. Each lower-level effect continues to be part of a higher-level causal system after its same-level cause has, relative merely to it, ceased to be. Each entity or event is an effect, not only of a multiplicity of causes, but of a multiplicity of kinds or levels of causes. Since these causes are different from each other, the difference (spontaneity) between an effect and its cause is really a multiplex of differences from its multiplicity of causes. What may appear as difference (spontaneity) in terms of one level of causation may be an identity with respect to another level of causation. Thus, for emergentists, there may not be as much spontaneity in each effect as might appear to a perspective limited to a single level of causation. But, nevertheless, each multiplex effect has a minimal quality of novelty about it. Furthermore, since entities or events are effects not only of causes which are past but also of those which are passing, effects are entailed in the incompleteness of the passage of their causes. Levels of causes involve levels of incompleteness. Each effect is entailed in many tendencies toward the future as well as determined by the many tendencies toward it.

Events and duration. While time consists of a single infinite continuous duration for monists (e.g., Josiah Royce conceives God's present experience, or now, as comprehending eternity) and of an infinite series of discontinuous events for pluralists, it involves continuing duration through discontinuous events for organicists. Each event involves duration, for if an event does not endure long enough for it to happen it doesn't happen. Duration can continue only through something, for duration of nothing is nothing. To endure is to persist through change and every change is an event. If there were no events there would be no change and if there were no change there would be nothing to endure through and thus no duration. (Hubert G. Alexander's *Time as Dimension and History* is a good analysis of the problem.) Time is both finite and infinite. That is, it both ends and doesn't end. Pluralists say that each event has ended completely after it has happened, but the series of events never ends. Monists say that the dura-

tional continuum is endless, but events, while inseparable from the continuum, eventually become past events. Organicists hold that each event is both a termination and a continuation. Change involves both identity and difference. In so far as there is identity, there is continuation. That which is remains the same or endures. In so far as there is difference, there is both initiation of the new and termination of the old. This terminal aspect of each event is what gives time its finite character. Temporal infinity derives from identity of anything through change.

If every change is an event, and if to change is to become different, there are as many kinds of events as there are kinds of becoming different. Events endure for as long or as short as it takes for anything to become different. Some events are longer than others. When one event occurs within another, as when a day occurs within a year, we may speak of levels of events. Emergentists conceive each entity, unit, whole, or emergent as having its own eventual character, its own period of endurance without change, and its own rate of change. Each emergent has its own kind of time. But kinds of time are not simple, for each entity has a multiplicity of causes and each cause has its own kind of difference to produce requiring its own kind of time to produce the difference. Thus each event, no matter how simple, is a multiplex of termini and continua.

How long is the present? While avoiding both extremes of pluralistic infinitesimals and the monistic eternal now, emergentists accept the fact of different presents of varying length. The present year (cycle of earth about sun) includes the present day (cycle of earth on its axis) and the presents of molecular, atomic, and electronic cycles. As presents vary so do pasts and futures. (Cf. G. H. Mead, *Philosophy of the Present*.) Relative to today, there are many past days and future days which make up the present year. Pasts and futures are relative to presents. Each entity which participates in a multiplicity of levels has many pasts and many futures.

Mechanism and teleology. Can what is future cause what is present? Can what is future with respect to one entity cause what is present with respect to it? Pluralists say no, absolutely no. Monists say yes, absolutely yes, for the goal or end of anything, the purpose it serves in the whole, is what causes it to be. Organicists say yes and no. Much, if not most, of what anything is is caused by what is past for it. And in so far as a present entity is caused by what is past, it is not caused by what is future. But there are two senses in which present entities are caused by what is future.

First, as we have seen, each cause and effect involves some identity and some difference. In so far as a consequent effect is the same as its antecedent cause, its antecedent cause is also identical with its consequent effect. In so far as the two are identical, is not the consequent as much a cause of the antecedent as the antecedent is of the consequent? If so, is not causation of what is present by what is future involved in some sense in every cause-and-effect situation?

Secondly, since there are levels of identity and levels of time, what is future for one entity may be part of what is present for another. Or, what is present for one may be future for another. In so far as any lower-level entity is determined in its nature and course by a higher-level entity, part of what is essentially present for the higher is future for the lower. In so far as the action of the higher-level unit is unitary, it has a kind of force relative to the lower-level unit which is both compelling and partly future with respect to many successive presents of the lower-level entity. Thus does any present lower-level event act as if caused by an event whose completion is simultaneous only with something in its own future. Thus, is not every event involved in some causation of present by future in this sense also?

If teleology means causation of present by future, in these two senses, then perhaps there is something to be said for teleology as over against mechanism which claims that causation is by what is past only. However, if mechanism means merely that nothing is uncaused, teleology and mechanism are not inconsistent, but each involves the other. Whenever anything is determined in part by any relation to a higher-level and longer-enduring unit, it may be said to be serving a purpose. In this sense, every event or every entity may be said to have a purpose—or rather many purposes.

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BOOK REVIEWS

Nature and Man. PAUL WEISS. New York: Henry Holt and Company. 1947. xxii + 287 pp. \$2.80.

This book might bear a subtitle "*Cosmological Foundations of Ethics.*" It is intended as an introduction to a more definitely ethical work, and it points to a further third volume, on politics.

In the first part, entitled "*Causation and Freedom,*" the author maintains not only that man is a free being in nature, but that freedom in some sense characterizes the activity of each

being. Freedom and necessity do not contradict but presuppose each other. The present always proceeds freely to a unique and unpredictable future; when this future has been achieved, it can be seen retrospectively as necessary and dependent on its past; but as present it again points to another as yet indeterminate and free future. How is this basic natural freedom to be recognized; how is the characteristic manifestation of this freedom in human beings to be interpreted; how is its personal reach and perfection to be seen in man's ethical career?

In all beings, Professor Weiss distinguishes an inside and an outside. Each being is a limited individual, resistant to the insistence of others, a barrier to them which they resist or to which they submit, and with a concern for some limited good which enables each of them to lay hold on the future in an individual way. This concern motivates actions, which may involve self-adjustment or expression or compulsion. "Each action is countered by other actions and meets barriers which make it fall short of its objective" (p. 76). In pursuit of its good, a being acts spontaneously, freely alters itself and its concern, rises to a higher level of activity. Thus arise living beings, conscious beings, beings with mind, in the process of realizing the limited goods that are the objectives of concern.

So we arrive at the second part of the book, entitled "The Psyche and the Self." In the process of evolution, a certain freedom of action may be traced, affecting the concern and the goal of each being. It proceeds to the attainment of higher powers such as sensitivity and purposiveness and consciousness. "Animals live; most are conscious, many perceive, some are intelligent" (p. 119). As we follow the transition to man, we can recognize our own characteristic nature, the attainment of a self which is the human constant. Animal life attains selfhood, becomes human when in its activity "a concern directed to the good of the individual or its kind" changes to "a concern directed to a good pertinent to other beings as well" (p. 144). Our author would at this point agree with Comte. Human nature has an animal-physiological basis, but its full attainment and significance are distinctively social.

The rest of this work may be said to trace the various stages and direction of this advance from animality to humanity. Under the heading "Technique and Habits" Weiss examines the bodily organs, the reflexes, instincts, and habits in their organic unity, the acquisition of various techniques. One special technique is mastered by man to a preëminent degree, the technique of using signs and language. Every experience anticipates some

future; when it so refers to a specific future that it comes to represent it and to evoke its appropriate reaction or response, we have signs and are on the way to having language. The more intentionally specific a sign is, the more consciously appropriate its specific response, the nearer we are to language: from calls, cries, exclamations, to names and predicates and "metaphysicals," to sentences of more and more involved statement.

Man is in a fourfold bond, bound to his past, to his body, to his fellows, to the world. But these bonds are also his basis and rootage. Without them he would be ignorant and solitary. He can not shake these bonds, but must not let them have their way with him altogether. In moulding his own response to them, he achieves his human individuality. This achievement manifests a threefold freedom: we initiate acts in our endeavor to realize our own objectives; we freely call upon our unused reserves to secure our opposed and threatened objectives; we freely change our direction of effort, when our former endeavor is frustrated. In this various exercise of his freedom man is aided by his attainment of mind. Mind signifies here "the power of treating content as having one significance in one context and another significance in another context" (p. 208). It operates on different levels, from the perception of significant objectives experienced as shared, to the inference from various perceptual items to a principle in which they are related, to the organizing and unifying activity of scientist, artist, and philosopher. Mind, like body, is both a medium and a barrier in human activity. Mind and body present limits and problems to each other. The so-called mind-body problem which has deep and various roots in philosophical tradition, can not be solved adequately either by materialistic or by Neoplatonic monistic reduction, of mind to matter or of matter to mind, nor yet in terms of dualism. Body and mind are different phases or activities of a single being. Body is a precondition of mind, and mind is the fullest fruition of human nature.

The two closing chapters deal with the will and the self. The response of body or mind to external conditions, as vitalized by the concerned self, is felt by us as an emotion. When the self presents an object of the mind or of the body so as to engage the other, we are said to experience desire. When this response becomes an active pursuit to attain the object of desire, we manifest our will. The will is our agency, in a conflict between mind and body, to terminate the conflict.

A man is "a self that is necessarily expressed in and through the body and may eventually be expressed as a mind and as a will" (p. 241). Human nature, therefore, can not be comprehended in

a materialistic or in a spiritualistic formula. Body and mind are both expressions of the self, both essential to our full being. The former is primary and our basis, but it is not final nor the summit of us. Freud emphasized strongly the active concern of the self which is manifested in both mind and body, but Freudianism erred in interpreting the pervading urge of the self too narrowly in sexual terms. The Freudian accounts of the self could be included but also corrected and completed by interpreting human nature as essentially social. Yet the social theory of the self is also in the last resort insufficient; the self includes sociality but is not simply reducible to it. This would be Weiss's critical comment on Comte.

"The self is a self of a natural yet ethical man" (p. 252). It is constant, active, concerned, unique, beneficial to the body, responsible, and sensitive to values. It is concerned with the pursuit of the good; it is itself the good realized in a limited way, aiming at a more complete and absolute good. In attaining greater and higher unity and harmony, it realizes itself more fully. And because the self is social, its own fuller realization is in terms which concordantly realize more fully other selves. Our ethical nature thus aims, in justice and fellowship, to perfect itself with others, "to perfect all there is in the world" (p. 264). Thus the author closes this book which is to introduce his next, definitely ethical treatise: "A man, because he is responsible, owes it to himself to plumb the foundations of ethics and make evident to himself what he ought to be" (p. 267).

As may be judged even from the above brief review, Professor Weiss has undertaken to interpret human character as natural throughout its range, from its roots in bodily-organic activity to its highest attainment in mind and will and ethical conduct, individual and social. But in this examination he has tried to avoid the errors of the usual naturalism which, in tracing human life to its organic roots, fails to give due recognition to our distinctively human fruitage. With equal emphasis the author has rejected those accounts of man which, in emphasizing our higher activities, fail to relate them to the rest of human nature and are left with a confusing dualism or with an airy spiritualism. This sound integral naturalism at which Professor Weiss aims is, in the reviewer's judgment, the chief merit of his cosmological foundations of ethics.

Critical readers of this book will not always agree with the author in his specific criticisms of the doctrines from which he distinguishes his own position. Nor will they accept his exposition of his own doctrine as in every detail adequate or convincing. For

instance, the conception of freedom-in-prospect which, in retrospect, is revealed as determined,—of nature manifested as unpredictable but necessary,—is a conception that provides for a certain apparent novelty in nature and contemplates also a certain creative activity, and more definitely an upward-tending evolving process in all being. But the vague view of it which diffuses its application to all being fails to provide for its more distinctive meaning in human-intelligent character. For this latter, we shall look expectantly when the author's next volume appears, on ethics. Again, the recognition of the higher reaches of mind and intelligence, of the deliberate pursuit and realization of values which characterize our individual and social activity, is a true recognition of human character. But in this book on *Nature and Man* it should be perfectly clear that any "natural" account of Man is by implication also an account of Nature. This metaphysical corollary in Weiss's cosmological foundations of ethics is certainly not ignored in this book, but it should have received greater emphasis. Between the extremes of crass materialism and an ultra-Platonic idealism, the author has sought a reasonable naturalistic synthesis, but his position inclines logically to a moderate idealistic emphasis, and this should have been more definitely declared—or admitted! Other more detailed comments might be added; but it is important to note that in this sort of criticism the main position of the book will not be seriously affected.

The style of this book is generally vigorous and lucid, but suffers occasionally from needless obscurity. The passages quoted in this review have been selected for their clarity, but there are some abstruse and perplexing passages which mar Professor Weiss's pages. A few slips in proofreading may be noted here for future correction: p. 59, "masters"; p. 123, "ape's"; p. 128, "Spiritualists"; p. 185, "articulatable"; pp. 256, 264, "unduplicatable"; p. 257, "duplicatable."

RADOSLAV A. TSANOFF

THE RICE INSTITUTE

Works of Love SØREN KIERKEGAARD. Translated from the Danish by David F. Swenson and Lillian M. Swenson. With an Introduction by Douglas V. Steere. Princeton, N. J.: Princeton University Press. 1946. xiv + 317 pp. \$3.75.

With few exceptions, the most notable one being the dissertation "On the Concept of Irony, with Constant Reference to Socrates," Kierkegaard's works are now available in adequate English translations. The present volume, a highly welcome addition to the Princeton edition, may be regarded as a sequel to the *Edifying*

Discourses. The theme is Christian love, with an almost exclusive emphasis on the love of the neighbor, and while the book is inferior in power and density to Kierkegaard's best writing, it shows a remarkable degree of integration. To assert that *Works of Love* is Kierkegaard's "greatest single work on Christian ethics" (Introduction, p. vii) is probably an overstatement. In point of fact, the pivotal concepts of Kierkegaard's moral analysis such as crisis, leap, despair, dread, and the like, are hardly alluded to in these pages. But this much is true that nowhere else did Kierkegaard make so serious an effort to cope with the social aspect of ethics. Evidently his point of view made it imperative and, at the same time, very difficult to master this problem. It was necessary for him to show that his radical individualism meant anything but egotism. Is Kierkegaard a desperate romanticist with a Christian nostalgia, or is he the Christian conqueror of romantic nihilism? The idea of Christian love, unassimilable as it is by romanticism, might serve as a touch-stone. The test, however, fails to produce conclusive evidence.

Although disclaiming authority Kierkegaard presents himself in the rôle of the preacher. The style is that of the sermon rather than of analytic inquiry. The language is designed to strike our spiritual sensibility, and it strikes hard, though with sharp and monotonous beats. There is in these sermons curiously little vision (they are spoken as though by one blindfolded) and, at the same time, an almost insane intensity. The great polyphony of Christian thinking on love does not awaken. Instead one high vibrant note is sounded, of indubitable authenticity but also disturbing and even piercing by its joyless isolation.

As we try to substantiate this impression by an analysis of the ideas expounded or implied we are driven into paradoxical statements. None of the elements generally found together will here associate with its kin, while other elements, to all appearance mutually exclusive, are surprisingly conjoined. Our initial disquietude gives way to intellectual bewilderment—a condition which may well be productive of insight.

As a rule, the anthropocentric approach to the problem of love goes with a humanistic emphasis. The opposite is true of these discourses. They are as decidedly anthropocentric as they are violently anti-humanistic. By calling the approach anthropocentric we mean that the emphasis is on the human endeavor rather than on the divine initiative, on the will of man rather than on the grace of God. Of course, Kierkegaard knows, and affirms solemnly, especially in the introductory prayer, that all love comes from God and that, consequently, human love is by nature responsive.

But the sermons themselves are concerned with the human response alone—with the fulfillment of the great commandment, *thou shalt love thy neighbor as thyself*. There is much moralizing psychology in these pages and only a negligible dosis of theology. Paradoxically this preoccupation with the human aspect of love combines with an anti-humanistic austerity. The love which God commands is an unselfish love. So, Kierkegaard insists, the true lover loves no less for seeing his love unrequited. Then, with his characteristic predilection for the extreme case, he goes on to contemplate the sombre triumph of a love which is misunderstood as enmity by its object (pp. 98, 107).

Admittedly, Christian love is different from friendship, or social solidarity, or from marital, parental, and filial affections. At the same time, we may believe that these natural bonds, which compose the moral fabric of human society, should be transfigured and purified rather than replaced by charity. This does not seem to be Kierkegaard's view. As the true forerunner of our contemporary theology of "total otherness," he sees a gulf fixed between natural attachment and the love demanded from us by God, and he expresses this difference with cruel poignancy: "Just because you love your beloved, you do not resemble God . . ." (p. 52). Friendship is based on partiality, neighborly love on "eternal equality," and so the two are opposite to each other (p. 48).

Surveying Christian thought on love, we may distinguish two strands. In both schools of thought love is primarily Godward love, and neighborly love is conceived as flowing inevitably from this first love. But while the first type thinks of God chiefly in impersonal terms as Spirit or Love or, more figuratively, as fire, light, well, or ocean, i. e., in metaphors characteristic of Neo-Platonism and negative theology, the other type of thought dwells with human tenderness on Jesus the man, the incidents of His earthly life from His birth and childhood to His Passion. Obviously, the passage from Godward love to love of the neighbor is more readily performed by the second type. Kierkegaard, who severely banishes all human affection from his meditations, and for whom Jesus is the model lover rather than an object of love, shows a marked affinity to the first, Neo-Platonic type with its intellectualism and metallic tenseness. But, at the same time, he repudiates this kinship with all its philosophical implications. With his almost exclusive interest in neighborly love, he seems nearer to the second type. This is, however, hardly more than a semblance. No element of natural attachment is allowed to taint the purity of spiritual passion. Only by loving God first can we love the neighbor aright, with that spiritual love "which takes away from myself

all natural impulses and all selfishness" (p. 47). "The world can never get this into its head, that God does not thus merely become the third party in every love-relation, but really becomes the sole object of affection" (p. 99). So the real love of the neighbor does not really love the neighbor. The world should not be blamed too harshly for not grasping this point. Instead it may well feel encouraged to scorn the great truth so lamentably distorted by a passionate but unbalanced philosophy.

Christian love can be thought of as modelled on personal love or friendship or as being more akin to the impersonal care for the fellowman simply as a creature, smitten by poverty or disease, suffering and in need of succor. In the first case the intimacy of the relationship and the refinement of feeling are stressed; in the second case, love will tend to become practical, active, bent on social reform. Kierkegaard seems to range himself with the second group. The neighbor, he insists, is not the kinsman or fellow-countryman, not the congenial mind nor even the fellow-Christian. He is simply anyone and everyone. But with all his insistence on equality and impartiality, which, he thinks, is inseparable from unselfishness, he is infinitely remote from anything even faintly resembling the social gospel. In fact he is very little interested in alleviating the physical suffering of his fellowmen. Love of the neighbor (which is really love of God) awakens in the neighbor the love of God—and this is the true work of love. All other works, such as the giving of alms, divert attention from the essence and tend to become a mockery of true love. So anxious is Kierkegaard to drive home the idea of the sheer inwardness of charity that he remodels the parables of the good Samaritan and the Widow's Mite, removing from them the element of gross usefulness (pp. 256-257). Quite logically this fastidiousness of thought leads Kierkegaard to exalt remembrance of the dead (no help can be given to, or expected from, the dead) as the manifestation of the most disinterested love (p. 281). As we realize that the dead whom, according to Kierkegaard, we ought to love with our best love are not those dear to us in a human way but anyone and everyone, then it dawns upon us what a very arduous and refined thing love has become in the crucible of this fervent mind. Surely, the kingdom of this love is not of this world. And since not even the reflex of its beauty is allowed to play on our human loves, the heaven where it resides withdraws into unspeakable remoteness.

HELMUT KUHN

BOOK NOTE

Ethics for Today. HAROLD H. TITUS. Second Edition. New York: American Book Company. 1947. xii + 569 pp. \$4.00.

The first edition of Professor Titus's textbook in ethics is well known and has been widely used. The new, revised edition, like the first, aims to clarify the nature of ethical concerns for the student whose major interests lie in non-philosophic directions. There is a consistent attempt to minimize historical and theoretical materials and to relate ethical questions immediately to the practical affairs of our times. Attention is given to business and professional "ethics"; this strengthens the tendency of the book to present ethics in terms of codes of conduct rather than in terms of the underlying principles which justify and inform these various codes. Praiseworthy is the author's concern for the bearing of recent psychological theory on ethics.

In general, the book seems to achieve its author's intentions. It is focused on the development of a satisfactory personal standard of morality by the undergraduates who read it, and it can be used for this end because the expression is simple and well within the range of undergraduates. The changes in the second edition can be credited as improvements from this point of view: the organization is better, especially in its breaking down of the earlier artificial separation between personal and social morality; the illustrative materials take into account the happenings of the crowded decade between editions; the suggestions for readings have been brought up to date; and the questions and projects which follow each chapter have been carefully revised and are now of more value as aids to the students.

J. L. B.

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THE JOURNAL OF PHILOSOPHY

EPISTEMOLOGY AND THE NEW WAY OF WORDS¹

I

THE general perspective of the present paper can best be indicated by saying that the author is a rationalistic realist who has deserted to the camp of logical empiricism; but who feels that in doing so he has not so much rejected one set of philosophical propositions in favor of another, as come to a clearer understanding of what philosophical propositions *are*. This change of allegiance has been made possible by the development of the semantic phase of the pure theory of languages; for only with the achievements of pure semantics did the formal-linguistic approach to epistemological and metaphysical issues begin to appear *relevant*, let alone adequate.

Today it is generally recognized that the tools of the syntactical phase of logical empiricism were not up to the task of dealing with all genuinely philosophical issues. That the situation has been improved by the addition of the semantic dimension to the pure theory of languages, is clear. Yet to the question, "Are we yet in possession of the tools necessary for a systematic clarification of philosophical issues?" the answer, as I shall indicate, must be in the negative. I shall argue that philosophy is properly conceived as the *pure theory of empirically meaningful languages*, and that pure semantics, as it now exists, is but a fragment of such a theory.

It is hardly necessary to point out that the additional tools for which we are looking are not to be found in the development which has come to be known as "pragmatics," for this is, on the whole, a branch of *empirical science*, a focusing of psychology and sociology on the phenomena subsumed under the empirical concept of language. I say "on the whole," because philosophers who work in this field often adumbrate certain issues of a genuinely epistemological character which can not be handled in terms of current syntactic or semantic categories. Unfortunately, since these issues are adumbrated in a socio-psychological context, they are inevitably falsified and confused with empirical problems. Even more unfortunate is the fact that because the felt need for a philo-

¹ A revised edition of a paper read at the meeting of the Western Division of the American Philosophical Association at Iowa City, May, 1947.

sophical supplementation of semantic categories is thus finding expression along empirical-psychological lines, there is occurring a psychologistic infection of these semantic categories themselves. The result is a blurring of the sharp distinction between philosophical and factual propositions which was a primary value of the syntactical phase of logical empiricism, whatever its shortcomings in other directions. It is by the proper supplementation of contemporary semantic categories that this infection is to be overcome. This supplementation, then, must serve two functions: (1) It must make possible the development of a system of concepts in terms of which all genuinely philosophical questions can be given an adequate formulation. (2) It must lead to a clarification of the very distinction between philosophical and empirical concepts, so that we can understand what it means to say that questions involving philosophical concepts are answered on *a priori* rather than empirical grounds.

The present paper amounts to the contention that classical rationalism, in so far as it was concerned with genuinely philosophical issues, made explicit the grammar of epistemological and metaphysical predicates, but—owing to certain confusions, particularly with respect to *meaning* and *existence*—came to the mistaken conclusion that philosophical statements were factual statements, albeit of a peculiar kind. Classical empiricism, on the other hand, argued that these statements were common or garden variety factual statements, and usually put them in the psychological species. Rationalism gave the grammar, but contaminated it with platonizing factualism. Classical empiricism threw out the platonizing, but continued to factualize, and confused the grammar of philosophical predicates by attempting to identify them with psychological predicates. In many cases the grammar was so seriously confused that certain of the more consequent empiricists can hardly be called philosophers.

It is now time to realize that classical rationalism was essentially sound as a naïve syntax of philosophical predicates, and not only can but must be absorbed into the empiricist camp if the latter is to be a philosophy. As a matter of fact, such a process of absorption has been going on for some time, and is proceeding, according to all indications, at an accelerated rate.² The essential task is to rob rationalism of the illusion that it is making factual statements. But in order to do this, empiricism must first recognize that a certain group of concepts which, when they are recognized at all to fall within the province of the philosopher, are

² These lines were written before the appearance of Carnap's *Meaning and Necessity*, which constitutes an excellent example of this trend.

hurled into the psychologistic dump known as pragmatics, are as genuinely philosophical and non-factual as those of pure syntax. Empiricism, too, has its factualistic illusions to lose. Thus the conflict between rationalism and empiricism is a conflict of illusions, and must cease when these factualistic illusions are dispelled. *An empiricism which recognizes that empiricism is not an empirical thesis will be identical with a rationalism which recognizes that rationalism is not a factual thesis.*

The central thesis of this paper can be put by saying that the system of predicates involved in the pure theory of empirically meaningful languages is inadequate so long as it fails to include a family of predicates among the elder members of which are "verified," "confirmed," "type," "token," "meaningful," "world-story." Our aim will be to sketch a grammar which throws new light on these terms by explicating their relation to one another and to the predicates explored in recent semantic and syntactical studies. In attempting to make explicit the syntax of epistemological predicates, we shall make use of the Wittgensteinian device of speaking in terms of a perfect language. For reasons which will become apparent as we proceed, we shall conceive of this language as the language of an omniscient being. If, in illuminating the concept of omniscience, we can show that epistemological predicates, particularly those which are almost invariably given a psychologistic treatment, play a purely formal rôle, then it would remain to draw the implications for the grammar of these predicates of the distinction between perfect and imperfect languages. *That this distinction has no consequences whatsoever for the grammar of epistemological predicates is, from the standpoint of philosophy, the most illuminating insight of all.*

II

In exploring the grammar of epistemological predicates, one of the most fruitful reference points is the fact that it makes sense to say that our language permits us to speak not only about this or that individual, but also about *all* individuals. Thus it makes sense to say that the sentence "All swans are white" says of each item in the universe that either it is white, or else it is not a swan. It is not always realized that this train of thought leads to the conclusion that it makes sense to say that the language in which "All swans are white" is formulated contains a designation for every constituent ingredient of the world to which it refers. In other words, if we permit ourselves to be guided by the grammar of the term "all," we are led to the notion of this language as mirroring the world by a one-to-one correspondence of designations with indi-

viduals. A similar train of thought applies to the case of universals or classes. While it is obvious that the English language as belonging to the empirical class determined by the socio-psychological concept of language does not have such an omni-mirroring character, it is equally clear that when we view language in the perspective of epistemological predicates, we treat it as though it were adequately tailored to a world.

Let us call our omniscient being Jones, his language the Jonesean language, and the body of logically simple (atomic) sentences which constitute the story of the universe in which he lives, the Jonesean world-story. Now it is a direct implication of the omniscience of Jones that the sentences of the Jonesean world-story *mean* states of affairs in the world,³ and are *true*. Instead, however, of exploring at this point the syntax of "meaning" and "truth," we shall take a roundabout way which, as in the adage, will prove the shortest way home. Thus, we note that the Jonesean language permits the formulation of *false* sentences, that is to say, of sentences which are incompatible with sentences belonging to the Jonesean world-story, and indeed, it *would seem*, of a whole set of alternative world-stories, only one of which is true. The concept of the omniscience of Jones involves not only that of a discrimination on his part between the true and the false sentences of the language, but also the notion that this discrimination is *well-founded* or *justified*.⁴

Let us take another look at the Jonesean world-story. It occurs to us that since it speaks about everything, it must mention Jones. That is to say, it must include sentences which constitute the biography of Omniscient Jones, and, in particular, the biography of his immediate experience (hereinafter called the Jonesean datum-biography⁵). This suggests that the justifiability of the selection

³ Until we become clear about the grammar of the term "world" in such a context, we shall sometimes speak of *the world of Jones*, and sometimes of *the world* without qualification. In general, our use of any philosophical term will be tentative and dialectical until the group grammar of all fundamental terms shows forth, at least in outline.

⁴ I share the conviction that all justification in the epistemological sense of the term is ultimately analytic in character. That the justification of which we have begun to speak is epistemological, and hence analytic, it is the specific purpose of this paper to establish.

⁵ In order to explicate the grammar of epistemological predicates, we need to consider them in use, that is to say, as applied to the expressions of an object language. Omniscient Jones is merely a device for blowing up our ordinary use of epistemological predicates into their use in the context of a perfect language. Since one of our conclusions will be that there is no epistemological problem of realism, we shall be begging no epistemological issues if we operate on the assumption that the Jonesean world story includes other sentences than those belonging to the Jonesean datum-biography.

by Jones of certain sentences in the language as true, and as constituting the story of the world, rests on the fact that the selected group of sentences includes the Jonesean datum-biography, *includes*, that is to say, *sentences the meanings of which are exemplified in his immediate experience*. In other words, if it made sense to say that Jones's experience includes both the *meanings* of datum-biographical sentences, as well as the data which embody those meanings, then we might well be satisfied that it is in the notion of a direct comparison of datum-biographical meanings with the data themselves that is to be found the basis for an account of the justification of the selection of certain sentences in the language as the *true* sentences of the language. This is the line taken by the modern platonist, for whom "immediate experience" has a broader sense in which it includes universals and propositions as well as the customary narrower sense in which it is limited to certain particular states of affairs. This line, however, is not open to the empiricist, for whom meanings are never data.⁶

As empiricists we must fall back at least temporarily on the fact that if meanings are never data, this is not true of *linguistic expressions*. Indeed, since the use of a language involves the occurrence in the world of tokens⁷ of expressions belonging to the language, it occurs to us that the immediate experience of Jones must include tokens of the sentences of the Jonesean language, and, in particular, tokens of the sentences which make up the Jonesean world-story. This leads to the conclusion that Jones's immediate experience must include tokens of the sentences which make up the Jonesean datum-biography. Thus, while we do not have an experiential confrontation of the meanings of these sentences with

⁶ That meanings in the sense defined by empirical psychology are not data is obvious. (For an account of meaning as psychological fact which brings out the dispositional character of the psychological concept of meaning, see Charles Stevenson's *Ethics and Language*, Chap. III, particularly sections 4 and 5.) However, we must also recognize a use of "meaning" which is distinct from that of empirical psychology, even if in some sense it is a "reconstruction" of it. This is the sense which is relevant to the semantic analysis of epistemological predicates. It is the recognition of this sense which leads only too often to Platonism. The contention that it is nonsense to speak of meanings in this sense as data constitutes the essential difference between an empiricism which reformulates the insights of Platonism, and Platonism itself. The characteristic tenets of Platonism, as opposed to a sound logical or epistemological realism with respect to universals and propositions, spring from the nonsense of speaking of apprehending universals and propositions.

⁷ We shall distinguish below (pp. 653-654) between a linguistic token, a class of linguistic tokens, and a linguistic type (that is to say, between *token*, *token-class*, and *type*). For the moment it will be sufficient to think of a token as a member of a class of marks as having meaning.

the realizations of these meanings, we do have an experiential confrontation of certain tokens of the sentences with the states of affairs to which they refer.

Let us define a *verified* sentence as a sentence a token of which is co-experienced with its designatum. We can then suggest that the notion of the justifiability of the selection of certain sentences in a language as constituting the story of the world⁸ rests on the notion that certain sentences in the language are verified sentences. But since *ex hypothesi*⁹ not all the true sentences of the language are verified sentences, the notion of such justifiability presupposes the notion that there is a rational connection between the verified sentences and the other true sentences making up the Jonesean world-story such that the verified character of the former entails the truth of the latter. Can we make sense of the concept of rational connection in this context?

We have suggested that classical rationalism may yet have a contribution to make to an empiricist epistemology, provided that factualistic illusions are set aside. How then would the rationalist verbalize on this point? Somewhat as follows (if we pick and choose from the history of rationalism). He appeals to an *a priori* principle of supplementation, the principle of sufficient reason, which is bound up with the existence of a realm of universals so related to one another that they constitute a system which can be viewed in one light as a system of necessary connections, and in another as a system of compossibilities. (It is this system which underlies the concept of the laws of nature.) Thus, in answer to the question we raised in the preceding paragraph, the rationalist might be expected to say, "Omniscient Jones justifies his selection of a group of sentences as those which are true of his world and constitute its story, by reference to the fact that this group includes a sub-set of verified sentences,¹⁰ the meanings of which are propositions known to require supplementation by reference to the principle of sufficient reason, and which, given the structure of the domain of universals meant by the predicates of the language, can be supplemented in only one way to make a complete world story." We are suggesting that a de-phlogisticated verbalizing along these lines may find a place in an adequate empiricist epistemology.

But the empiricist would seem to be confronted by a dilemma at the very beginning of an attempt to speak along these lines. In order to hold that one set of *atomic* sentences can be compatible

⁸ See footnote 3 above.

⁹ See footnote 5 above.

¹⁰ For the rationalistic account of a verified sentence we must return to the approach we formulated, only to reject, on p. 649 above.

(and it is logical, not psychological, compatibility that is in question) with only one set of additional *atomic* sentences, he must make sense of the notion of a *priori* (that is, for the empiricist, *logical*) restrictions on the manner in which atomic sentences can combine—restrictions which are functions of the predicates appearing in these sentences. On the other hand, the notion of such restrictions is repugnant to the contemporary empiricist, for whom no two atomic (and therefore affirmative) sentences can be incompatible.¹¹ We notice that on the rationalistic position, universal propositions which correspond to a connection of universals are synthetic *a priori* truths about a world exemplifying those universals. Our problem, then, amounts to that of determining what concessions¹² can be made within the framework of empiricism to the notion of synthetic *a priori* truth. Needless to say, any concessions along these lines must be made by showing that the notion of the synthetic *a priori* is the confused notion of an *a priori* that is *analytic*. The terms of our problem, however, prohibit a solution along traditional empiricist lines, for it follows from the above that the universal sentences which express, for the rationalist, eidetic intuition on the part of Omniscient Jones, are synthetic in the usual syntactic sense. If an analytic *a priori* is involved, it can only be on condition that it makes sense to say that *the statement that certain synthetic universal sentences are true of the world, is itself analytic*.¹³

III

How can it be an analytic proposition that certain synthetic universal propositions are true of the world? Here is where empiricism must abandon its naïve realism. The first step consists in

¹¹ He reluctantly makes an exception for atomic sentences in which determinate predicates falling under the same determinable are predicated of the same individual. This concession, however, does not touch our problem, which concerns the compatibility of atomic sentences about different individuals. To say this, however, is not to say that in so far as additional types of restrictions on the combining of atomic sentences must be recognized, they are unrelated to that which is so reluctantly conceded.

¹² To add, as we must, that in the final analysis we have to do not with concessions, but with a necessary ingredient in an empiricist epistemology, is to restate our contention that the rationalism-empiricism issue is a pseudo-problem.

¹³ It is worth noting that for the Platonist it is an analytic truth that synthetic universal propositions corresponding to connections of essences are true of the world embodying those essences. Is it silly to ask, "Might there not be other worlds embodying other realms of essence, so that the synthetic *a priori* propositions actually lived up to by the first world would be only vacuously satisfied by the others, and vice versa?" *Autre pays, autres mœurs!* Here we have a hint as to the direction our argument will take.

examining the rôle of the definite article in the expression "*the* world." Since the very function of the definite article is to imply a set of entities from which one is distinguished, must we not say that the distinction between *the* world and the other worlds is a descriptive one? "But surely," it will be said, "the others don't exist!" Here is the germ of the ontological fallacy. It is now time to realize that every world-story means a world; that the basic grammar of the term "world" is brought out by the statement, "A world-story in a language means a world." It is in terms of this matrix that the expression "*the* world" is to be understood: "*the* world meant by. . . ." Thus, to understand the notion of *different worlds*, we must understand those of *different stories* and *different languages*. But it is best to begin with the simpler question, "In virtue of what are two predicates of one and the same language different?" Clearly, the difference has to do with a difference of meaning. At this point the danger is psychologism, the confusion of the *epistemological* predicate "means" with the predicate "means" which belongs to the vocabulary of empirical psychology.¹⁴ We are arguing that statements about the meaning of terms are, in epistemological contexts, non-factual statements which are true or false in a purely formal sense, and decidable (in principle) on purely formal grounds. Not merely is a language characterized by a set of formation rules; we must also add that the primitive predicates of a language are distinguished from one another by *conformation* rules; rules which restrict the formation of compound sentences out of atomic sentences which involve these predicates. I have put the matter elsewhere¹⁵ as follows:

. . . consider the question: in virtue of what are two different predicates " ϕ " and " θ " different? We might be tempted to say either (1) because they are empirically different marks, or (2) because they have different meanings. The first answer is obviously inadequate. The second is more satisfying. But once we have drawn a sharp distinction between *meaning* as a concept of

¹⁴ It is not denied that "means" in certain contexts is an empirical predicate. We are merely insisting that the epistemological and the psychological uses of the term be sharply distinguished. We shall follow current practice below and use the term "designates" in epistemological contexts, unless the context makes it clear which sense we have in mind. We are suggesting that "designates" is a purely formal term which no more stands for a feature in a world than do "implies" or "and." No one, today, would make the mistake of supposing that syntactical predicates are empirical or factual predicates; that "or," for example, stands for a feeling of "or-ness." Perhaps it is safer to say that no one should make such a mistake. If psychologism in syntactics shows some signs of rising from the dead, it is because psychologism in semantics has not been properly buried.

¹⁵ "Realism and the New Way of Words," *Philosophy and Phenomenological Research*, forthcoming.

empirical psychology and *meaning* or *designation* as a concept of epistemological semantics, we see that though the second answer is true it does not clarify. The question asked above can no longer be characterized as a psychological side-issue, but must be answered in terms appropriate to the conception of *meaning* or *designation* as a purely formal concept. The conclusion at which we are arriving is that from the standpoint of epistemological analysis, the predicates of a language are differentiated from one another in terms of the formal roles they play in the language. Using the term "syntax" in a broader sense than is current, we could say "different syntax, different predicate; same syntax, same predicate." We shall prefer to say that predicates are differentiated only by the conformation rules which specify their combining properties. The concept of combining properties of predicates . . . concerns the relation of predicates to individual constants in the following way. It involves (1) the concept of a "skeletal" relational predicate (there may be more than one provided they are syntactically related) which signifies the fundamental type of order in which the individuals to which the language can refer must stand; (2) the concept of restrictions on the non-relational predicates which can be associated with given individual constants where the restrictions are a function of (a) the predicates, (b) the (skeletal) relational sentences in which these individual constants are making an appearance. . . . We have here a coherence theory of meaning characterized in purely syntactical terms. . . . It is in terms of such conformation rules that predicate families are formally specified (determinates under common determinables) and different predicate families are distinguished and related.

Thus, the formal concept of *designation* is essentially bound up with that of *conformation rule*. The identity of formally indiscernible predicates (we shall discuss individual constants in a moment) is part of the grammar of formal science, and, in particular, of the predicate "designates."

A further clarification of this point is contributed by the type-token distinction. Here it may be helpful to think of a linguistic type as a *nexus* of formal functions. The fact that in *mentioning* a linguistic type we must use an empirical mark makes it seem inevitable that the notion of a linguistic type is the notion of an empirical class as designating. Yet empirical classes belong to a world; and, as we have seen, the concept of a world is the correlate of the concept of a language semantically interpreted. For this reason, the concept of a language can not be identified with the concept of empirical classes as bearers of the designation relation. Empirical classes must be conceived as designators in a derivative sense.¹⁸ The notion of such derivative designators is an essential ingredient in the concept of an empirically meaningful language as one that is used in the world it is about. We must thus distinguish between (1) types, (2) token-classes, and (3) tokens. The

¹⁸ In the case of *meaning* as a psychological concept, on the other hand, the primary sense has to do with the empirical functioning of particular empirical marks in a constituted world.

metalinguistic predicates "type" and "token" presuppose "designates," and can be explicated as follows:

The predicate "token" is used properly when it is said that the *designatum* of one expression in a language is a token of another (perhaps the same) expression in the language. The formal significance of the concept of token is brought out by the following: If "*p*" designates *p*, and *p* is a token of "*q*," then all the metalinguistic predicates which apply to "*q*" apply also to *p*; thus, "*q* is true" entails "*p* is true." In other words, we have here a grammar according to which metalinguistic predicates can be associated in specifiable circumstances with the expressions belonging on either side of the predicate "designates." If *p* is a token of "*q*," then "*q*" is said to be the *type* of which *p* is a token.

It is involved in the notion of an empirically meaningful language that tokens be specified for the type expressions which make up the language. This is done by specifying for each type expression in the language the class (or classes¹⁷) of items in the world of the language which is to be the token class (or classes) for that expression.

IV

The ingredients we have so far introduced into the grammar which is to clarify the concept of an empirically meaningful language are essentially familiar, and, except for certain implications we have drawn, do not take us beyond the scope of the formal theory of languages as at present conceived. In order, however, to give a formal account of the predicates "verified," "confirmed," "meaningful," and, consequently, in order to complete the grammar of "truth," we must characterize a further restriction on the language to the expressions of which these predicates can apply. Such languages must contain a reflexive, symmetrical, and transitive two-place predicate for which we shall use the term "*coex*," but which must no more be confused with the predicate "co-experienced with" as a term of empirical psychology than "designates" with "means" as a psychological expression (though in each case it is proper to say that we are dealing with a "formal reconstruction" of language as empirical fact). The formal significance of "*coex*" lies (1) in its relation to the concept of *token*, linguistic tokens in a primary sense falling in the domain of the relation *coex*, and (2) in its relation to the concept of *verified sentence*, which will be defined below.

¹⁷ Thus, from the standpoint of the pure theory of empirically meaningful languages, "different languages used in the same world and which mean that world" are to be understood as different sets of token classes for the type expressions which constitute one and the same empirically meaningful language. (I note that Rynin, in the interesting essay which accompanies his edition of Johnson's *Treatise on Language*, arrives at a similar conclusion.)

We have argued that the meanings of the (primitive) predicates of a language are formally specified in terms of conformation rules which discriminate between them in terms of the structures of relational sentences (involving the "skeletal" or basic ordering relations of the language) in which individual constants must function in order for these predicates to be properly applied to them. What are we to say about the meanings of the individual constants of a language? *Once again the rejection of psychologism forces us to say that the difference in meaning of individual constants must rest on syntactically characterizable differences in their rôles in the language.* Is it sufficient to say that the individual constants of a language are differentiated in terms of a structure of basic order sentences which might be called the meaning-base of the individual constants of the language; a different individual constant (as type) corresponding to each place in the net-work?¹⁸ This, however, would be a dangerous half-truth. It makes the relation between the individual constants and the primitive one-place predicates of a language a purely external one; it regards the individual constants (given the skeletal relations) as semantically self-sufficient. That the relation is not a purely external one we have already seen from the side of the one-place predicates. That the dependence is reciprocal is indicated by the following train of thought: (1) It will be granted that it doesn't make sense to speak of individuals which stand in relations, but have no qualitative character. Consequently the semantic aspect of individual constants does involve a reference to one-place predicates. (2) It follows (given our syntactical approach to semantic meaning) that for an individual constant in a language to have meaning involves that it be formally specified as belonging with a one-place predicate. (3) The only alternative to admitting that the semantic determinateness of the individual constants of a language presupposes a specific assignment of one-place predicates as defined by conformation rules, is to postulate one or more one-place predicates which belong to all individual constants, which one-place predicates are independent of the spectrum of one-place predicates defined by conformation rules. (4) This alternative (besides being open to all the classical objections to absolute space and time and to the ether) is incompatible with the fact (which I shall not argue in this paper) that the primitive individual constants of a logically perfect language can be connected in a true sentence with only one primitive, determinate, one-place predicate.¹⁹

¹⁸ This is the approach suggested by Carnap in *Meaning and Necessity*.

¹⁹ A developed theory of language must draw a clear distinction between primitive individual constants (simple individuals) and defined individual

The sum and substance of these contentions is that the meanings of the individual constants of a language must be specified in terms of a specific assignment to them of one-place predicates in conformity with the conformation rules relating to these predicates. *The meaning-base of the individual constants of an empirically meaningful language must be a complete world-story formulated in that language, rather than a pure structure of skeletal relations.* We must now rebuild this notion from a different perspective.

Let us return to the notion of a world-story, and, in particular, to that of a world-story the characterization of which as true is rationally warranted by the fact that it includes a sub-set of verified sentences which uniquely determine the world-story as a whole.²⁰ Let us call such a story a *confirmed*²¹ world-story, and any sentence of such a story, a confirmed sentence. We can explicate the concept of such a world-story as follows:

A confirmed world-story is a set of sentences which, given the conformation rules which specify the meanings of the predicates of the language in which it is formulated, and given a semantically determinate battery of individual constants, contains a sub-set of sentences (1) which can be built into only this one complete story, (2) the *designata* (see paragraph which follows this explication) of which sub set constitutes a set of items mutually related

constants (complex individuals, "things"). Not even complex individuals can be members of more than one class or (which is the same thing) instances of more than one universal. " $(x) x \in \text{White} \rightarrow x \in \text{Circle}$ " says "Each member of a thing-class including the note White is a member of a thing-class including the note Circle."

²⁰ The conception that, given the syntax including conformation rules of the language in which they are formulated, a set of verified sentences can formally entail and be entailed by a complete world story, and thus be *logically equivalent* to that story, without the story being translatable into—or "reducible" to—the set of verified sentences, is what distinguishes my position from positivism. Compare the discussion of a *reciprocal fit* in my article "Pure Pragmatics and Epistemology," *Philosophy of Science*, Vol. 14 (1947), pp. 189 ff.

²¹ This root sense of "confirmed" is not one that admits of degrees. Its function is to clarify the contrast between sentences "checked against the facts they assert" (verified sentences) and sentences "checked only indirectly" (confirmed but not verified sentences). A predicate "confirmed to-degree n " relates not to this distinction, but to the clarification of statistical and probability assertions. Such a predicate might be introduced as one applicable to expressions in a language L , and defined as a matter of the ratios in which the individual terms (appearing in a story S which is the meaning base of L) which satisfied one sentential function, also satisfied other sentential functions. The employment of such a predicate would always presuppose a constituted world. Therefore it would be nonsense to speak of the confirmation of natural laws (which correspond to the very meaning-rules of the language to the expressions of which the predicate "confirmed to-degree n " is applied).

by the relation *coex*, (3) which sub-set consists of sentences *verified in the story*.

Sentence "*p*" will be said to be a sentence *verified in story S* if *S* includes a sentence "*q*" and a sentence "*r*" such that "*q*" designates *r coex p*, where *r* is a token of "*p*." Sentences "*q*" and "*r*" will be said to be the experiential tie of "*p*," and *r* the verifying token of "*p*." Each sub-set of verified sentences as characterized above will be called a *verification base* of the story *S*.

The references to *designata* in these definitions make it necessary to come to a final reckoning with naïve realism. We have already pointed out that the expression "the world" must be interpreted in such a way as to avoid the ontological fallacy. We suggested that the expression contains an implicit reference to a language, and has the sense of "the world meant by . . . a given language." Are we saying that the rejection of the ontological fallacy involves the notion that there are many *real* worlds? Indeed not! The final abandonment of naïve realism comes with the realization that "talking about the *designata* of sentences" is an essential ingredient in "characterizing these sentences in terms of epistemological predicates." The "right-hand side" of designation sentences together with the predicate "designates" and the quotation marks on the "left-hand side" are all alike formal devices belonging to the grammar of epistemological predicates; their function is the purely formal one of hooking up with the rules relating to the assignment of such predicates as "true sentence of (language) *L*," "verified sentence of *L*," etc. If we introduce the term "world" as a collective term for the *designata* of a world-story, then it is a purely formal truth that every world-story in every empirically meaningful language designates a world. The pure theory of empirically meaningful languages as formally defined systems which are about worlds in which they are used, has no place for *the* world, but only for the world designated by the story which is the meaning-base of a given language.²²

²² Once we appreciate the fact that epistemologically it makes no sense to speak of *the* world, it becomes possible to explore certain traditional controversies with the hope of discovering what, if anything, is at stake. Different languages are characterized by different conformation rules; different conformation rules are reflected in differences in the structures of stories formulated in these languages, and of the worlds these stories are about. Epistemology, or the pure theory of empirically meaningful languages, can develop the formal properties of languages with different conformation rules, but can not "choose" the story or the language. Epistemology can show, or expose the formal confusion that underlies attempts to show, that one or other type of story or language is internally inconsistent. In this sense, and in this sense alone, can it defend or attack "realism," "idealism," or some other epistemological "ism."

A few definitions by way of crystallizing certain expressions we have used in the course of our argument follow:

A calculus (with specified conformation rules) which permits the formulation of expressions which conform to the defining requirements of a confirmed world-story, will be called an *empirical language form*. The notion here is that as far as the predicates of a language are concerned, there can be a family of world-stories involving those predicates (a family of worlds involving the same qualities-laws, but different "initial" conditions).

An empirical language form pinned down to one of these world-stories, and hence for which the formal status (and hence the meanings) of its individual constants is fixed, will be called an *empirical* (or *empirically meaningful*) *language*. The world-story which fixes the individual constants will be called the *meaning base* of the language.

The individual constants and (primitive) predicates of empirical language *L* will be said to be *meaningful expressions of L*, as will (atomic) sentences constructed of them. The *designata* of meaningful individual constants and predicates will be said to *exist* in the world of the language. This sense of existence in which individuals and classes exist is to be distinguished from the sense in which it is said that *lions* (as opposed to the *class lion*) exist. The former is correlated with "meaningful," the latter with "true."

A meaningful sentence of *L* which belongs to the story *S* which is the meaning base of *L* will be said to be *confirmed in S*, and to be a *confirmed sentence of L*.

A meaningful sentence of *L* which belongs to a verification base of *S*, will be called a *verified sentence of L*.

A predicate which appears in at least one verified sentence of *L* will be called a *datum-predicate* of *L*. A meaningful predicate of *L* which appears only in confirmed sentences of *L*, will be called a *non-datum predicate* of *L*.

The notion that the primitive predicates of an empirically meaningful language must be datum-predicates, and that its basic sentences must be verified sentences, is psychologism pure and simple, and not even good psychologism at that. The psychologism which is classical pragmatism (Dewey) has sounder instincts than the sensationalistic pragmatisms which have listened to Hume, Mach, and some of the earlier tales from the Vienna Woods. It is, however, an analytic truth that an empirically meaningful language is empirically meaningful as resting on a verification base, a set of verified sentences which uniquely determine the language in the complicated way we have indicated.

The conclusion to which we have come is that since, from the standpoint of the pure theory of languages, the notion of an empirically meaningful language includes the notion of a confirmed world-story which is the meaning-base of the language, *sentences assigning epistemological predicates to the expressions of an empirically meaningful language are either analytic or self-contradictory*. Thus, the sentence "'*p*' is a (factually) true sentence of *L*" is itself *logically* true (or false). To say this, is not to *identify* semantic truth with syntactical or logical truth. It is only to say that (in principle) the semantic predicate "(factually) true" is formally decidable. The predicate "(factually) true"

is characterized by the formal equivalence "*p* is true if and only if *p*." But that the world designated by the story which is the meaning-base of *L* includes (or fails to include) state of affairs *p* is a matter of logical truth (or falsity). Just as the notion of the world is a mistake, so is the notion of the set of true sentences. To see that "(factually) true" as well as "designates" is in principle formally decidable, is to take the final step away from both naïve realism and psychologism. Clearly, however, we must explain our frequent use of the expression "in principle." We shall use it once more, and then make the explanation of it the final point on our agenda.

We have been contending, in general, that where *E* is a linguistic expression, and " ϕ " an epistemological predicate, the sentence " $\phi(E)$ " entails "*E* belongs to language *L* of which the meaning base *S* designates world *W*," and that the truth or falsity of " $\phi(E)$ " is formal truth or falsity, decidable, in principle, on purely formal grounds. Speaking loosely but suggestively, we would say that the "attribution" of epistemological predicates to an expression implies that the expression belongs to a formal system constituted in such a way that the sentence making this attribution is either analytic or self-contradictory. This is what we mean when we say that the use of epistemological predicates involves (logically involves) *presuppositions*.

"But surely," it will be said, "the construction of world-stories and the deciding with respect to them that sentences of the kind '*p* is (factually) true' are analytic or self-contradictory, lies completely beyond our powers! What possible connection can there be between such a mathematician's dream, and our humble use of epistemological terms?" The answer (like the answer to all good philosophical questions) is hidden in the question, and concerns the distinction between "perfect" and "imperfect" languages, and its implications for the sense of formal predicates.²³

The most fruitful way of looking at this distinction is to consider the rôle of variables in these languages. A perfect language is one which includes no variable (individual or predicate) for which it does not contain an explicit domain of values. Thus, a perfect language is one in which a universal proposition can be translated into a logically equivalent conjunction of singular propositions. An imperfect language is one in which universal propositions can not be so translated, but must make use of ampersands and dotted lines; in it, therefore, universal propositions are *schemata* rather than shorthand for specifiable logical sums and

²³ At this point the closing sentences of section I and the opening sentences of section II should be re-read.

products. Let us call a perfect language a *language proper*, and an imperfect language, a *language schema*. We should admit that human beings speak a language schema.

Now the contention I wish to make is that the distinction we have been drawing between language schemata and languages proper is a *factual-psychological* rather than a *formal-epistemological* distinction. As I have put it elsewhere,²⁴

[this distinction] belongs to the psychology of formal manipulations, and can no more be formulated in terms of formal concepts, than can the concept of *mustale*. If this is the case, then our factual inability to construct complete world stories no more entails an inability to give a formal account of a complete world story, or of a language proper, or to presuppose structures of this kind, than our inability to construct an infinite series entails an inability to give a formal account of infinity, or, indeed, of particular infinite series. Our everyday use of epistemological predicates is *formally* sensible, even though we cannot turn it into petty cash.

It is in view of these considerations that we can understand how it is that as formal scientists we must say that the use of epistemological predicates presupposes a complete world-story in a perfect language, while yet recognizing the blundering status of the human animal.

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COMMENTS AND CRITICISM

TRANSACTION VS. INTERACTION

A seemingly new direction in Dewey's thought has been signaled recently by a series of articles, written in collaboration with Arthur F. Bentley and currently appearing in this JOURNAL, in which the conception of "transaction" is used to supplement (with the implication that it may ultimately replace) that of "interaction." Though the full implications of this latest development have not yet been made entirely clear, enough has been written to stimulate thought and to call forth a number of questions.

Bentley and Dewey (the former seems to be the active member in the collaboration, with Dewey acting as critic and censor) feel that "trans-action" is the next level to which the organization of inquiry must proceed, basing this insistence on a historical evolutionary analysis in which the development of modern sci-

²⁴ "Realism and the New Way of Words," *Philosophy and Phenomenological Research*, forthcoming. See also "Pure Pragmatics and Epistemology" in *Philosophy of Science*, Volume 14 (1947), pp. 193-197.

ence is seen as having gone through three stages, characterized in turn by (1) "self-action," (2) "inter-action," and (3) "trans-action." The differences between interaction and transaction are variously stated. For example, when using the latter approach they are asserting "the right to see together, extensionally and durationally, much that conventionally is talked of as if composed of irreconcilable separates."¹ In a later passage of the same article, interaction is described as "presentation of particles or other objects organized as operating upon one another," and transaction as "functional observation of full system, actively necessary to inquiry at some stages, held in reserve at other stages, frequently requiring the breaking down of older verbal impactions of naming."²

In a later article, entitled "Interaction and Transaction,"³ this distinction is developed further and exemplified in the history of modern physics; here the further point of clarification that is added distinguishes the method of transaction as eliminating the treatment of "things" and "relations" as isolated or detachable.⁴ In a third article, entitled "Transactions as Known and Named,"⁵ a host of other distinctions is introduced and additional examples are given from the biological and psychological sciences.

We can not help but wonder, on the basis of the material before us, whether Dewey (or his collaborator) may not be beating something of a dead dog, at least in so far as the implied criticism of "interaction" is concerned. In a footnote to the "Interaction and Transaction" article, reference is made to "Dewey's early employment of the word 'transaction' . . . to stress system more emphatically than could be done by 'interaction,'" and the beginnings of this "attitude" are traced to Dewey's famous paper on "The Reflex Arc Concept in Psychology" (1896).⁶ The "transactional" attitude, in other words, has always been present in Dewey; the new discovery heralded by these articles would seem, therefore, to be terminological chiefly.

However, this sudden and drastic reinterpretation of terms may lead students of Dewey's thought into embarrassing difficulties. Thus, we find the distinction made, with respect to Activity, that If inter-action views things as primarily static . . . then Trans-action regards extension in time to be as indispensable as is extension in space (if

¹ "A Terminology for Knowings and Knowns," this JOURNAL, Vol. XLII (1945), pp. 242-243.

² *Ibid.*, p. 246.

³ This JOURNAL, Vol. XLIII (1946), pp. 505-517.

⁴ *Ibid.*, p. 509.

⁵ This JOURNAL, Vol. XLIII (1946), pp. 533-551.

⁶ *Op. cit.*, p. 509, note 9.

observation is to be properly made). . . . Or with special attention to the case of organism and environment. If inter-action assumes the organism and its environmental objects to be present as substantially separate existences or forms of existence, prior to their entry into joint investigation, then—

Trans action assumes no pre knowledge of either organism or environment alone as adequate, not even as respects the basic nature of the current conventional distinctions between them, but requires their primary acceptance in common system, with full freedom reserved for their developing examination.⁷

In the first place, this is *not* the manner in which Dewey has used the term "interaction" in those of his writings with which we have long been familiar. He has never treated the interacting elements as "static," nor has he ever spoken of organism and environment as "substantially separate existences"; in fact, the whole force of his earlier use of the term was in the opposite direction. It is somewhat disconcerting to find the useful concept of "interaction" twisted out of the contexts and use with which we have become familiar and made the whipping-boy of a new and chiefly terminological "discovery."

In the second place, the concept of interaction still seems to be the more useful one, even in many of the examples of "transaction" cited, simply because it implies a recognition of the obvious and fundamental polarities in experience. No matter how tentative or relativistic our process of inquiry may become, some elementary distinction between the subject and the object, the organism and the environment, the knower and the known, will, or should, remain. Of course, these will usually be found "fused," or at least mingled, in a complex fashion; but, retaining Dewey's more familiar picture of dynamic and inseparable elements to begin with, the term "interaction" seems to provide a more accurate description of experience and of the process by which "organisms" come to know their "environments." The fundamental importance of the omnipresent subject-object polarity is evident from the fact that its absence in atomic physics has radically altered our conception of knowledge in that field, introducing the element of indeterminism: we can not *know* the electron because we can not *interact* with it.⁸

"Transaction," when used to refer to the process of inquiry, stresses, quite properly, the mutual involvement of the "knower" and the "known" in a "full system" of great complexity; but "interaction" reminds us that the former element can never be eliminated and must be abstracted if we are to achieve objectivity. When focused on the environment, this concept is also useful as a

⁷ "Transactions as Known and Named," *op. cit.*, p. 536.

⁸ P. W. Bridgman, "The New Vision of Science," *Harper's Magazine*, March, 1929.

formulation of the *ideal goal* of science, which is to describe the "transactions" of nature as far as possible in themselves, independent of the various qualities lent them by individual experience; but, again, "interaction" reminds us that this is a goal which can never be perfectly achieved, because of the inevitability of "point of view."

Our goal is to define the relations between experience and existence with precision; "transaction," properly stressing the continuity of man and nature, but doing so at the expense of the necessary distinctions included in "interaction," tends to confuse and blur them.

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A TRANSACTION WITH MR. KAHN

The argument that is marshaled in defense of interaction as against transaction runs something like this: (1) Since interaction "implies a recognition of the obvious and fundamental polarities in experience," (2) in view of Professor Dewey's hitherto wide usage of the term, its retention would be highly desirable. Clearly, no disagreement exists as to the activist analysis. It centers rather about the preposition of activity, about the position of the objective configurations in their patterned movement with respect to that analysis. Mr. Kahn emphasizes the bipolar relation between organism and environment, and by-passes the other ongoing processes outside of this organized environment. Messrs. Dewey and Bentley would regard interaction as a misleading concept that misrepresents the character of natural activities, some of which involve human knowledge and others which escape our attention. Transaction is proposed as a leading concept to indicate at once the liberation of part of the environment from human experience and their closer union where the environment is experienced and known.

The criticism of this concept is wide of the mark, and this, whether or not transaction is the fitting term for methodological purposes.

(1) The polarity of organism and environment is a logical distinction made during the logical phase of experience; the environment is not swallowed up by experience, but both are simultaneously signified during this logical phase. At first blush, this distinction may appear obvious for the nature of human experience, but it is hardly fundamental for the nature of unexperienced nature. It has no priorities over the host of distinctions that have graced the history of philosophy, since its intralogical and post-

logical status is similar to theirs. Before inferential inquiry, brute existences move on in whatever patterns accommodate them. The patterned movement of molecular entities becomes a world of rolling stones and falling rain only after the entities have been named and qualified during inquiry. Some objective configurations are found in nature and others are ideally organized in order to control their movement and expedite human purposings when the idea is acted upon. To turn around after the inquiry and state that these logical products existed prior to the specific logical operations is the sheerest of metaphysical fallacies; that they are potentially there before the cognitive activity ensues and that this activity follows the lead of the brute existences is a totally different sort of statement. The first springs from the idealist confusion of epistemology and metaphysics, while the second is the naturalist's way of avoiding that confusion and breaking out of the idealist predicament. The espousal of the newer transaction serves not so much to get out of this confusing predicament, for that has already been accomplished in the controversies of yesteryear, but rather to reinforce the new position by getting rid of the experience-centered and dualistic innuendoes of interaction. Besides setting the organism off against the environment, the latter would anticipate extending the environment beyond our experience of it, and make that extension dubious; the former has an evenness of focus that provides not only for the experienced environment but for unexperienced patterns in nature as well.

Interaction is considered "more useful . . . simply because it implies a recognition of the obvious and fundamental *polarities* in experience, the subject and object, the organism and the environment, the knower and the known" (my italics). And yet what is presented is but a single polarity; a moment's reflection discloses that the three pairs enumerated are but different aspects of one and the same polarity. If the possibility of *polarities* in experience be recognized, and even of pluralities that aren't mentioned, then this unswerving adherence to interaction is puzzling; for *polarities* have been eliminated from the very outset by assigning their possibility to interaction; the polarity of organism and environment hasn't the privileged status of absolutely anteceding the other polarities, as well as the unities and pluralities, disclosed during special inquiries. These limitations undermine interaction as a controlling concept, for it leaves much to be desired by a realistic naturalism that shuns idealism, passive formalism, and dualism. The sooner their terminological innuendoes are read out of the language of contemporary naturalism by the use of transaction, or of another suitable term that engenders this anti-formalist, anti-

dualist significance, the easier it will be to curtail their persistence in philosophic discussion.

(2) The introduction of transaction has a clarifying office. If the term doesn't clarify, a different one should be proposed instead of defending the regressive one. The transaction of organism *with* environment Professor Dewey considers preferable to the interaction *between* them, if only because it underscores the continuity of nature with human nature and preserves the integrity of unexperienced nature from idealist excesses. It is significant that neither the naturalist attitude nor the activist analysis changes, but only the language is altered, the better to label that attitude and analysis. One of Professor Dewey's greatest difficulties arose from the fact that his reconstruction was entrapped by a philosophic vocabulary that fitted precisely the analysis he was displacing. So that if the "omnipresence" of interaction in his writings is bothersome, its bothersomeness would become doubly increased if either the displaced dualism or the exclusively formal problem of knowledge were reinstated as a major theme; or if the "subject-object" polarity itself became "omnipresent."

There is a patent advantage in calling things by their right names, and the rechristening of leading principles by the founder of experimental naturalism is to be welcomed where those principles are made clearer. For those who find the older epistemologies and metaphysics more congenial, these clarifications will fall on deaf ears, as the disagreement runs much deeper than mere terminology and deserves a more thorough treatment. But Mr. Kahn, a student of Professor Dewey's writings, sees that transaction is not a recent contrivance championed to satisfy some passing whim, that it has been in use since the reinterpretation of the reflex arc concept in 1896. That article is perhaps the most important one of the middle 'nineties, for it signalized the final shaping of a thoroughly active philosophy of experience. It supplemented the Jamesian stream of thought with a stream theory of conduct; just as thought was no longer the product of discrete inexplicables called sensations, so conduct no longer depended on the mechanical push-pull of stimulus and response by some trans-empirical subject as cause or organizer of the concrete act. The James-Dewey collaboration here opened up new frontiers in the philosophy of experience, and transaction was a tool in that advancement.

And this brings us to the crucial advantage which Mr. Kahn also seems to recognize, a recognition that blunts the intent of his criticism. "'Transaction' . . . stresses, quite properly, the mutual involvement of the 'knower' and the 'known,'" and this is what was intended with reference to inquiry; we are not told how it

does so "at the expense of the necessary distinctions included in 'interaction,' " or why it "tends to confuse and blur them." Nor are we told how to deal with instances where the polarity of organism and environment may be irrelevant to the purposes of our inquiry. Since transaction would suit these inquiries where interaction is inadmissible, and stressing as it does the "mutual involvement" that interaction might vitiate, then surely the term of wider reach and greater accuracy is the better one.

Our aim is to further philosophic inquiry and not to paralyze it with a terminology that is shot through with a prescientific psychology and its attendant philosophies. Rather than forestall the quest for an improved terminology, we should seek to sustain the activist-experimentalist philosophy of experience. It would be more instructive to work through basic concepts still current in contemporary naturalism that are the counterfeit coin of a bygone intellectual stamp, as further terminologic and analytic refinements are in order. Perhaps this enterprise is not as satisfying as hair-splitting disputation, but it should prove more rewarding.

BENJAMIN WOLSTEIN

NEW YORK CITY

BOOK NOTES

Studies and Essays in the History of Science and Learning Offered in Homage to George Sarton on the Occasion of his Sixtieth Birthday. Edited by M. F. ASHLEY MONTAGU. New York: Henry Schuman. 1947. xiv + 597 pp. \$12.00.

The manuscript of this book was presented to Dr. Sarton in 1944 on his sixtieth birthday, its actual publication being delayed by the war for the better part of three years. The twenty-seven contributions celebrate in a fitting fashion the great stimulus Dr. Sarton has supplied, by precept and example, to the study of intellectual history. A brief biographical note provides the essential data on his scholarly career and achievements.

The contributions are of unequal interest to the general philosophical reader, they range over a wide area of subjects, and they vary considerably in merit. Most of the essays deal with special figures or with detailed technical developments in the history of the physical, biological, and cultural sciences; but a number of them address themselves to general themes connected with the influence of science upon phases of civilization. None of the articles attempts a sociological or economic interpretation of intellectual history.

Only a few of the contributions to the volume can be explicitly noticed here. The essay most interesting to the present reviewer is the late Professor Cassirer's "Galileo's Platonism." According to him, though Galileo must be regarded as a Platonist, his was "not a metaphysical but a physical Platonism," a standpoint distinctive of Galileo and "unheard of" before his time. Professor Cassirer recognizes the continuity of Galileo's thought with that of the past, and is prepared to admit that Galileo was influenced by the logical treatises of the Padua school; he nevertheless rejects the conclusion that the inspiration for Galileo's scientific work came from the Aristotelianism centered at Padua or Paris, and maintains that on the contrary "His thought is, directly and immediately, connected with Plato, with Eudoxus and Euclid, not with Jean Buridan or Nicolas d'Oresme." Professor Cassirer's paper exhibits its author's characteristic wide learning and judicious temper in handling a complex and difficult problem. Another essay likely to attract the philosophical reader is Professor Lenzen's "Helmholtz's Theory of Knowledge." It furnishes a brief but careful statement of Helmholtz's philosophy of science, hitherto not available in English; and it calls attention to the views of an outstanding nineteenth-century figure that are still important and that have been undeservedly neglected by Anglo-American students of scientific method. A paper by Agnes Arber on "Analogy in the History of Science" contrasts in an interesting manner the use of analogies in medieval and modern science, and points up the familiar but still frequently neglected difference between the justifiable employment of analogies as heuristic devices and the dubious worth of analogies as warranted grounds for inference—Samuel Butler's speculations on memory and heredity being cited, among others, as illustrating the confusion of analogy with strict identity. Grant McColley's "Humanism and the History of Astronomy" pays tribute to the influence of astronomical ideas upon men's conceptions of their place in nature. M. Delevsky's "*L'Idée du Cycle Éternel dans l'Histoire du Monde*" brings together much ancient and modern discussion of the alleged eternal recurrence of world history, and makes explicit the basic assumption on which that conception is founded. This assumption—that the number of possible combinations of the elements out of which actual events are constituted is finite—M. Delevsky believes has never been established and is unlikely ever to be demonstrated; accordingly, he rejects on this ground as well as for other reasons not so persuasive the doctrine of eternal recurrence, and he also dismisses as inadequate teleological theories of cosmic history. In "A Few Notes on Egyptian and Babylonian Mathematics," Dr.

Solomon Gandz offers a revaluation of the relative merits of Babylonian and Egyptian achievements in pure science, and shows that on the basis of recent researches the superiority of the former over the latter must be acknowledged.

Dr. Montagu's "Suggestions for the Better Correlation of Literature and Science" is a plea for greater attention to the impact of scientific ideas on literary productions. It is a plea which undoubtedly has merit, though the reader is often left wondering how illuminating or significant some of the suggested "correlations" really are—for example, the fact cited by Dr. Montagu that Chaucer wrote a treatise on the astrolabe is of trivial importance for any evaluation or appreciation of Chaucer's writings. In his "Positivism and the Technocratic Ideal in the Nineteenth Century" Dr. de Santillana contributes an interesting though impressionistic discussion of the ideas on social planning of such men as Comte, St. Simon, Enfantin, and Proudhon. But it is a pity he has adopted the method of half-statement and innuendo rather than that of explicit formulation in his comparison of eighteenth- and nineteenth-century conceptions of "technocracy" or in his imputation of a "fundamental philosophic contradiction" to the positivism of the nineteenth century. Chauncey D. Leake's "Ethicogenesis" is a surprisingly uncritical discussion of the nature and source of moral principles. The author believes that it is possible to discover "a naturally operative principle that governs human conduct" which has "the same character as the principle of gravity." And he offers on the basis of "biological evidence" the following banal and highly ambiguous dictum as a tentative statement of such a principle: "The probability of survival of a relationship between individual humans or groups of humans increases with the extent to which that relationship is mutually satisfying." The paper "On the Infinite Number of Infinite Orders. A Chapter of the Pre-History of Transfinite Numbers" by Professor Schrecker discusses some alleged anticipations of the Cantorian theory of transfinite cardinals in several writers of the seventeenth and eighteenth centuries. While the materials cited are very interesting, the attribution of even the germ of Cantor's ideas to Fontenelle seems to this reviewer quite far-fetched. Professor Schrecker makes a slip in identifying *Aleph-one* with the cardinality of the continuum. And his "warning" to positivists not to "sever science from metaphysics and theology," on the ground that in the history of science many productive ideas had their origin in theological and metaphysical speculation, is a bit of gratuitous irrelevance and a good example of the genetic fallacy.

Filosofi Italiani del Quattrocento. EUGENIO GARIN. (*Istituto Nazionale di Studi sul Rinascimento.*) Florence: Le Monnier. 1942. vi + 553 pp. 65 lire.

Eugenio Garin, whose studies of Pico and other Renaissance philosophers are well known to scholars in the field, has collected in this volume an unusually large and diversified number of Latin texts, with Italian translations on the side, selected from the works of Italian humanists and philosophers of the early Renaissance. The authors represented are: Coluccio Salutati, Leonardo Bruni, Poggio Bracciolini, Cosma Raimondi, Francesco Filelfo, Lorenzo Valla, Bartolomeo Fazio, Giannozzo Manetti, Leon Battista Alberti, Matteo Palmieri, Bartolomeo Platina, Bessarion, Marsilio Ficino, Cristoforo Landino, Ermolao Barbaro, Angelo Poliziano, Giovanni Pico, Ludovico Lazzarelli, Pletho, Donato Acciaiuoli, Lorenzo de' Medici, Girolamo Savonarola, Alamanno Donati, Giovanni Nesi, Egidio de Viterbo, Nicoletto Vernia, Elia del Medigo, Girolamo Donato e Giovanni Pontano. The passages are well selected, often from rare old editions or from manuscripts, and accompanied by informative notes. An introduction (pp. 1-75) surveys the intellectual currents of fifteenth-century Italy. Students of Renaissance philosophy and literature will be grateful for this useful volume which brings together a large amount of interesting material most of which had not been accessible in any modern edition.

P. O. K.

The Roots of Our Learning. Eleven Essays. FRANCIS NELSON. New York: Robert Schalkenbach Foundation. 1946. ix + 297 pp. \$3.00.

The author of these loosely connected essays—actor, producer, parliamentarian, traveler, and man of letters—is a *dilettante* in the honorable sense of the word. The variety of topics dealt with is great, the occasion for writing is generally provided by a book which aroused the author's interest, and the unifying theme is a preoccupation with the values of British history and Christian tradition. The worst that can be said about these essays is that they are slight, the best that they reveal an intelligent reverence for the past.

H. K.

OTHER NEW BOOKS AND JOURNALS

Foote, Henry Wilder: Thomas Jefferson: Social Reformer. (Beacon Reference Series.) Boston: The Beacon Press. 1947. 15 pp. 25¢.

Carrithers, Walter A., Jr.: *The Truth about Madame Blavatsky*. (Supplement to *The Theosophical Forum*, April, 1947.) Covina, California: Theosophical University Press. 27 pp. 50¢.

Philosophisches Wörterbuch. HEINRICH SCHMIDT. 8th edition. New York: Mary S. Rosenberg. 1945. 476 pp. \$3.50. (The last pre-Nazi edition of this useful philosophical dictionary, published by Alfred Kroner in Leipzig in 1931, has been reproduced in photo-reprint by authority of the Alien Property Custodian, thus making the book easily accessible to American students of philosophy who read German.)

MIND. Vol. LVI, No. 224. Sense Data and Judgment in Sensory Cognition: *C. A. Campbell*. "Social Engineering": *R. Rhees*. Will the Future be like the Past?: *F. L. Will*. Discussions—On a Certain Modal Proposition: *C. H. Langford*. On Paradoxes of the Type of the Epimenides: *C. H. Langford*. Virtue, Obligatoriness and Rightness: *J. E. Ledden*.

THE PHILOSOPHICAL REVIEW. Vol. LVI, No. 5. Recent Poets on Man and his Place: *Katharine Gilbert*. A Defense of Substance: *E. J. Nelson*. The Rôle of the Philosopher: *Marten ten Hoor*. Proceedings of the American Philosophical Association. Discussion—Freedom and Reform: *G. H. Sabine*. Beauty Defined: *A. J. Bahm*.

PHILOSOPHY OF SCIENCE. Volume 14, Number 4. Methodology of Research and Progress in Science: *Erwin Biser* and *E. E. Witmer*. The Locus of Mathematical Reality: *L. A. White*. An Experimental Measure of Personality: *C. W. Churchman* and *R. L. Ackoff*. A Categorical Analysis of Value: *E. W. Hall*. Commentary Ethics and Social Science: *J. Somerville*.

We print below a list of selected articles from the following publications:

JOURNAL OF THE HISTORY OF IDEAS. Vol. VIII, No. 4. Form and Content in Plato's Philosophy: *Philip Merlan*. A Note on the Origin and Problem of Leibniz's Discourse of 1686: *L. E. Loemker*. The Idea of Interpretation in Hebrew Thought: *Solomon Simonson*. Sigwart's *Logik* and William James: *R. B. Levinson*.

THE HIBBERT JOURNAL. Vol. XLVI, No. 1. The Laughter of God: *S. H. Mellone*. Does God, or Man, Need to be Justified: *F. H. Heinemann*. A Fifth-Century Apostle of Free Will: *A. H. Birch*. Lewis Carroll: Philosopher: *C. J. Woollen*. Ethics, Human and Divine: *Perovsky-Petrovo-Solovovo*.

RIVISTA DI FILOSOFIA NEO-SCOLASTICA. Anno XXXIX, Fasc. III. L'indagine probabilistica della natura: *P. Dore*. L'idea dell'essere da Parmenide ad Aristotele: *G. Di Napoli*. Eraclito in

Giustino: *L. Alfonsi*. Studi protrettici e filosofici nell' "Epistola a Diogneto": *L. Alfonsi*.

REVUE DES SCIENCES HUMAINES Fasc. 46. Antifinalisme et finalité chez Lucrèce: *P. Mesnard*.

SCIENTIA. Vol. LXXXI, N. CDXXI-XXII. Considerazioni critiche sul problema del cosiddetto finalismo biologico: *E. Poli*. The Foundations of Thermodynamics: *J. R. Partington*. Systématisation scientifique de la philosophie: *A. Natucci*.

THE KENYON REVIEW. Summer, 1947. Two More Existentialists: Karl Jaspers and Gabriel Marcel: *Marjorie Grene*. "Not Men": A Natural History of American Naturalism: *Malcolm Cowley*. (Autumn, 1947.) On the Agenda of Political Theory: Post-War Stock-Taking, IV: *P. A. Palmer*.

COMMENTARY. Vol. 4, No. 4. The Study of Man. Liberating the Social Scientist: *John Dewey*.

SIGMA. No. 3, 1947. Arte e conoscenza in Jean-Paul Sartre: *Vittorio Somenzi*. Elementi per una teoria della conoscenza—III: *Giuseppe Vaccarino*. L'esperimento nella scienza, nella filosofia, nella religione: *A. Aliotta*.

NOTES AND NEWS

The Conference on Methods in Philosophy and the Sciences will meet December 7, 1947, at the New School for Social Research, New York City. The subject of the morning session will be "The Theory and Practice of History" with the following papers: "History and the Philosophy of History" by Maurice Mandelbaum; "The Great Historian and the Meaning of Truth" by Kurt Riezler; Discussion by Sidney Hook. At the afternoon session the subject will be "American Public Policy on Science: A Symposium on the Report of the President's Scientific Research Board." The papers are as follows: "The National Planning of Science" by Robert F. Steadman; "Scientific Freedom and National Planning" by P. W. Bridgman; "Science and Secrecy" by James R. Newman.

Section L of the American Association for the Advancement of Science on the History and Philosophy of Science will meet in Chicago, Illinois, December 27 and 28, 1947. The program is as follows:

Morning Session, December 27, Symposium on "Foundations of Modern Physics," Joint Session with the American Philosophical Association: "The Place of Logic in the Advance of Science" by

Philipp Frank; "Cosmology and Logic" by John Myhill; "Philosophical and Physical Evolution of the Problem of Motion" by Leopold Infeld; "Principles of Impotence in Modern Physics" by R. B. Lindsay; Discussion.

Afternoon Session, December 27, Symposium on "Problems of Concept Formation in Psychology," Joint Session with the Sections on Botanical Sciences, Psychology, Social Economic Sciences, and the American Philosophical Association: "Types of Concepts and Types of Definitions in Psychology" by Herbert Feigl; "The Formation of Concepts in Personality and Dynamic Psychology" by R. B. Cattell; "Diagnostic Concepts in Psychopathology" by Phyllis Wittman; "The Problem of Anxiety; Some Conceptual Difficulties" by C. H. Mowrer; Discussion.

Afternoon Session, December 28, Symposium on "Are Human Social Problems in a Different Category from Integrations of Biology?" Joint Session with Section on Social and Economic Sciences and the American Philosophical Association: paper by A. E. Emerson; "Human Social Problems as a Type of Disintegration in a Biological Integration" by G. A. Lundberg; "The Relations between Biological and Cultural Factors in Social Problems" by F. S. C. Northrop; Discussion.

For further information, write to Raymond J. Seeger, Secretary of Section L, Naval Ordnance Laboratory, White Oak, Silver Spring 19, Maryland.

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No. 20. September 25, 1947.

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No. 21. October 9, 1947.

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Review of John Hospers' *Meaning and Truth in the Arts*. HENRY DAVID AIKEN.

No. 22. October 23, 1947.

Probability and Meaning. DAVID RYNIN.
Naturalism and the Appreciation of Nature. CORLISS LAMONT.
Review of H. A. Hodges' *Wilhelm Dilthey: An Introduction*. JAMES GUTMANN.

No. 23. November 6, 1947.

Fact and Understanding in History. EDWARD W. STRONG.
On the Certainty of Empirical Statements. PAUL HENLE.
Emergence of Purpose. ARCHIE J. BAHM.
Review of Paul Weiss's *Nature and Man* by RADOSLAV A. TSANOFF.
Review of Søren Kierkegaard's *Works of Love* by HELMUT KUHN.

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THE JOURNAL OF PHILOSOPHY

PROFESSOR DONALD WILLIAMS VERSUS HUME

WHY can't we settle anything in philosophy? Even when the clear, final, inescapable facts have been long ago thrust upon our attention?

Hume pointed out that from past and present data we can not deduce any prophecy of the future; not even a merely probable prophecy. Professor Donald Williams in his brilliant book, *The Ground of Induction*,¹ maintains that we can; that from uniform data in experience we can prove a probability that the uniformity will continue. And this on strictly deductive principles.

Professor Williams, in spite of all his care and power of reasoning, seems not fully to have noted how deep Hume's argument cuts. We can not infer deductively from the existence of one thing the existence (even only probable) of another or quality. The thought may be thrown into this form: we can not deduce one particular from another—no matter how extensive our first particular may be—even if it consists of a multitude of particulars. Such a deduction would have to be an "immediate inference," an inference with but one premise, the conclusion of which was a proposition about something not mentioned in the premise! The sanction of logic has been claimed for many a monstrosity, but it will hardly be claimed for this. Hume's thesis therefore stands. And Professor Williams's is inconsistent with it.

It is inconsistent because he starts with particulars, invokes no factual generalization that could serve as major premise, and ends with particulars (as well as generalization)—in a probable form. He does not oppose Hume's argument in direct collision, but he would seem to find his way round it—by a course of reasoning of a captivating ingenuity. From anyone interested in all attempts to confute Hume on this topic the book can not fail to command signal attention.

For the sake of simplicity and clearness in a subject so easily thrown into complexity, I may be permitted to approach the author's argument by steps or stages.

I

The commonest reply to Hume is this: we know that if the same event occurs again under precisely the same circumstances it must

¹Cambridge: Harvard University Press. 1947. ix + 213 pp.

produce the same: if its nature is identical how can it produce something different? This argument seemed cogent, for example, to both Bradley and Bosanquet. Yet it is a mere trick with words. To produce is to cause; you are saying that the event was a cause, and by the definition of the word "cause" or "produce" the same cause or productive agency must always have the same effect. But how do you know that the event was a cause, that it has a right to the name, that it always will be followed by the same sequel? That is an implication of the term, not of the event. Hume pointed out that what we call the cause and what we call the effect are two distinguishable events, that we can think of each by itself, that is, apart from the other, that the one, taken simply as an event, does not imply the other, that it is only from experience we learn that the one may be expected to usher in the other. The verbal trick begs the whole question. From this evasive fallacy Professor Williams's book is wholly free.

II

The species of argument employed in the book is the mathematical calculation of probabilities. Let us begin, as an introduction, merely to illustrate the conditions of any such calculation and without any reference whatever to the book's argument, with some of the simplest examples that Professor Williams happens quite incidentally to mention.

If, for example, the conditions of a race (p) entail that just one of six horses must win (q_1, q_2, \dots, q_6), and if there is no other relevant information, then the credibility of any one horse winning is $\frac{1}{6}$. [Pp. 34-35.]

Over the "logic of chance" or "theory of probability" a great illusion has for many minds long hovered: the illusion that pure deductive reason can extract a probability solely from "the possibilities of the case." Out of this has grown the dream that we can found induction and natural science upon such a procedure of pure deductive reason. But you can not extract a probability from mere possibilities. The idea of probability is not contained in the idea of possibility or possibilities and can not be conjured out of it.

In the example just given there is specified a definite fact (not a mere possibility) which is the foundation of all that follows, namely, that a certain event will take place: the race will be run. In real life, if a race is announced and expected, this is a high probability arising from experience; in a hypothetical case like the present it is part of the hypothesis. But this event that is going to happen may take any one of several forms, that is, one or another of the horses may win. Each of these forms of the outcome is

rightly called possible, but they are simply possible alternative forms of something which is not merely possible but certain or highly probable. This certainty or high probability they divide up between them. Thus we are not dealing with mere possibilities but with probabilities each of a low degree. In a race in real life each of these low probabilities (that a particular one of the horses will win) is $\frac{1}{2}$ of a high probability (namely, that some horse will win); in a hypothetical case each is $\frac{1}{2}$ of a hypothetically imagined certainty. If we did not have our probability or assumed certainty at the outset—that the race would be run and one of the horses win—we should have no emergent probability at all. And this applies to every case of a mathematically computed likelihood of this order. We might reason forever about mere possibilities and arrive at no fact or probable fact.

And there is another requisite, of course, besides mere possible cases, namely, the limitation of their number; in this case the known fact that *only* six horses will compete. That is not a possibility but an ascertained or definitely assumed fact, without which the inference would be impossible.

Look at another of Mr. Williams's incidental examples.

. . . to aver that the premise that a bag of marbles contains 9,999 white and 1 black gives no rational support to the belief that a marble abstracted from it will be white, is strictly absurd.

Certainly; we have no reason, when we take out one, to expect that any particular marble more than another will be the one taken. Hence we must be prepared to the degree of $\frac{1}{10000}$ to see one-or-another-of-the-white-marbles, and be prepared to the degree of $\frac{1}{10000}$ for the black.

Here the event that it is assumed will take place is the drawing of a marble from the bag—the revelation of the color of some one of the marbles, like the revelation of the comparative speed of one of the horses. There are one thousand forms, so to speak, in which this may take place, since there are one thousand different marbles each of which may be the one drawn. The probability that any particular marble will be drawn is a thousandth part of the assumed certainty that the event will occur.

So let us formally set down the following as the first and second of certain principles governing our subject.

1. *Calculation under the Theory of Probability is based on an initial certainty or probability that something exists or will exist; there is, however, more than one form or embodiment in which it may exist, and the number of alternative forms or embodiments is known.*

2. *Probability can never be extracted from mere possibilities, the former idea not being contained in the latter.*

Suppose now we try as an experiment to reason inductively, that is, from experience, as nearly as possible after the fashion of these two examples. *I am not connecting this with any procedure of Professor Williams's.* I try it as a preliminary for the light it sheds on the whole subject. Suppose, for instance, having always found that "water wets and fire burns," we ask: On the occasion when next we encounter fire or water how shall we reckon on deductive principles the probability that it will burn or wet? That occasion would be intended to correspond with the race and with the discovery of the color of a particular marble. At once we see that there is no parallelism. Deductively, we do not know that there will be any such occasion. Deductively, we know nothing at all about any future events. We expect them, owing to our experience, but not on deductive grounds. We have no information from that source limiting the number of forms in which our event may occur, or showing us that objects will retain the properties they now have. Hence the entire basis of procedure in the two examples is lacking and no ground remains for deductive procedure at all.

III

We come now to Professor Williams's own manner of proceeding in offering a basis for induction. It consists in passing from the calculation of what a sample will probably be when we know something about the whole class to the calculation of what the whole class will probably be when we know a sample. It is the latter that induction requires—the sample being our data of a certain kind or class up to the present. And the misfortune of the argument is that we can not effect such a passage; that which enables us to make the calculation in the first instance is the very thing that is completely absent in the second; we have nothing from which to draw a conclusion. In the first case at the outset we have a knowledge of the whole class and to that extent a knowledge of the sample, which is part of it. In the second case we have a knowledge of the sample and none whatever of the rest of the class.

I am not, of course, seeking dogmatically to exclude Professor Williams's view in advance; I am saying that this is how the matter appears when we look it deliberately in the face. If there is any logic that will deliver us from this apparent *impasse* we shall certainly salute it as a marvelous discovery.

If we try to extricate ourselves from our ignorance of the rest of the class by considering *all possible* members of it, and what alone they *could* be or must be, then we encounter at once two broad considerations: (1) we have no deductive means of knowing anything whatsoever about what the rest of the class could, must, or will be; and (2) if we had we still should not know deductively that any more of the class existed or would exist. We have no deductive knowledge that the universe or any part of it will continue to exist beyond this moment.

Of course we are constantly inferring with regard to the future from uniform facts already in hand; what Hume said was this is another kind of inference; it is not deduction.

It seems entirely clear that if we are going to draw deductive conclusions of any sort about the nature of the rest of the class—what properties further things of that kind will turn out to have—we must begin by making some sheer factual assumption about it. We can not draw conclusions from nothing. We can not distil them from utter ignorance. But, granted an arbitrary assumption of one sort or another, we can proceed to base conclusions upon it. Now to make an assumption which in fact is arbitrary about the actual composition of a class, in advance of our knowledge of any part of it but our data, and then to base deductions upon this arbitrary assumption, is, I think, exactly what we shall presently find Professor Williams doing. We have our sample, we have nothing more; in some manner an element of fact about the unknown remainder must be imported into the matter if we are to seem to reach any probability.

The appeal of his book is to "the fundamental law of large numbers, that most samples [for instance our data] match their populations [the membership of their class]." ". . . this is an analytic law of logic" (p. 153). But where does he argue the matter, where do we find the nerve of his actual proof of this law as a basis for induction, what is the piece of reasoning which has the responsibility upon it of being the one means of escape from Hume's conclusion? We are manifestly intended to find it in the chapter on "The Probability of Induction." There on page 91 we read: "Here, I take it, is in main principle a solution of the problem of induction." What has preceded? An attempt, as already said, to pass from the calculation of what a sample will be when we know something about the whole class to a calculation of what the whole class will probably be when we know a sample; to calculate the latter in a comparable manner *and with comparable warrant* (the thing that I suggest is impossible).

What we have to work with in an inductive situation consists of two kinds of knowledge: the number of the sample, and its composition, which are facts of observation; and the principle that no matter what the population is like, any sample, of considerable size, will very probably be very similar to it, this being an *a priori* law of classes, demonstrable by logical analysis. [P. 91.]

What, then, are the steps of the argument?

In the first place, although the inferring of the composition of the population from the composition of the sample is not logically the same as the converse process of inferring the composition of the sample from the composition of the population, both inferences could be made valid by the single general principle that given any population and any (largish) sample thereof, it is highly probable that the sample matches the population (and hence that the population matches the sample). In the second place, the latter general principle may be proved to be true by no more intricate method than considering the whole range of possible population compositions and observing that although the probability of a matching sample of a stipulated size is different for different compositions, the probability of a matching sample is always greater than the probability of any other kind of sample, and if the sample is large, then *no matter what the population composition may be*, the probability is very great. [P. 88.]

"To bring this out clearly," he says—the emphasis is my own—"let us look again at the sampling formula and ask how much we can say about its various terms even though we do not yet know the actual composition of the population." He points out what "the extreme cases" would be: if *all* the class had the character in question, all the class would in that respect resemble any sample; if none of the class had the character in question again all the class would in that respect resemble any sample. True.

On the other hand, the probability of matching is least, and the probable deviation σ is the greatest, when the composition of the population is midway between the two extremes 0 and 1, that is, when just half of M is P and half accordingly is non- P What happens then in this worst of all conceivable situations for the probability of the sample's matching the population? . . . the worst possible situation is still a very favorable one. That is, there must be a probability of .6826 at the very least that the sample composition does not differ from the population composition by more than 1 percent., and a probability, at the very least, of .9545 that it does not differ by more than twice this, or 2 percent., and so forth." [P. 89.]

This seems a strangely artificial approach to the question, How do we know that the data we have are any guide to the future? Our situation in induction is not that of contemplating academically a merely conceived class and considering upon what hypotheses as to its composition any possible sample will be likeliest or least likely to be in a certain respect a true specimen of the whole class. Our situation is that of having an actual specimen already in hand (our data) and desiring to know what prospect there is

that the rest of the class will in the respect in question be like it. And "the probability of matching is least" if none of the rest are like it. *That* is "the worst possible situation." To say that at least half the class must resemble the sample is to make an arbitrary factual assumption about the rest of the class; it is just here that we find the author doing this. Inasmuch as in the cases that arise in induction the possible other members of the class are for us wholly uncertain in existence and, if existent or so to be, wholly unknown in character beyond being members of the class, we have no assurance, not even any degree of probability, in the matter. I speak, of course, from the strictly deductive point of view, which alone is here in question. From that point of view our data are no clue to anything. Which is just what Hume pointed out.

To be sure, the assumption that one-half of the class have the character in question is midway between assuming that all have it and that none have it. That none have it we know to be false because our data have it. That all have it we possess, of course, no deductive means of knowing. But he has shown us nothing that obliges us, from our actual point of view, to deem the midmost situation between these particular extremes the worst possible. He has shown us nothing that obliges us to make any assumption at all.

When the author invokes "the law of large numbers" he must not forget that its substantiation as supporting induction has been effected *through* the reasoning just quoted, and apparently depends upon that reasoning. That seems to be the bottleneck of the argument. If the law can be substantiated as supporting induction apart from that reasoning, he must show us just how.

It does seem to be this very argument just cited that is offered as "in main principle a solution of the problem of induction." True, he mentions at least one other "way of formulating the solution" (p. 93), but it is briefly and dogmatically stated, without rendering clear the one essential, the nerve of proof. What we need to know is the innermost logic of his solution, explicitly, *completely stated, and if we do not find this in the passage quoted above, where do we find it?* If I have missed the pith of his argument my only desire is that my eyes shall be opened and that I may see it set palpably before us. I am pathetically ready to be convinced, to recant, and to become an advocate of his thesis. If he has supplied a logical confutation of Hume he has given us the most momentous production on the subject since that philosopher wrote. Attempts by others at confutation up to the present have signally failed. But it would seem that Professor Williams has a liability to be carried away by the technics of symbolic

logic out of sight of first principles and first needs. These techniques have been and are, of course, invaluable. But it is a healthful exercise, every little while, to translate them into English, and had he done so he would probably have avoided some of the reasonings presented in this book.

Needed: a formulation of the law of large numbers as basis for induction which does not require any arbitrary assumption about the unknown. Needed for the author's position but apparently impossible. If possible it is, might it not be stated in full, without dependence on allusions, taking nothing for granted?

In the absence of such a formulation may we not now say:

3. *There is no means possible or conceivable by which from given specimens of a class could be deduced the probable character of its other members. For the reason that in the nature of any existent or existents no implication is present as to the nature of any other. From concrete particulars we may gather empirical probability, yes, but implication, no.*

4. *While the deductive inference of probabilities depends always upon definite knowledge or assumption of an antecedent probability or certainty which it can not transcend, the inductive inference of probabilities, on the other hand, depends upon data which it is its very function and essence to transcend.*

This is in effect what Hume laid down.

IV

We turn now to the philosophic background of the work.

In drawing an inductive inference from our data to further particulars, if we could supply a major premise, such as the Law of Causation or "the Uniformity of Nature," and certify it apart from experience, our inference would become deductively valid. But we can not. And Professor Williams offers at the outset no principle respecting the sequence of events in nature. Any such general proposition would be "synthetic," and he maintains that no such is required. "Induction presupposes nothing."² He does invoke "a principle," "the law of large numbers," but it is "an analytic law of logic" (p. 153), "an analytic truism" (p. 139), "an *a priori* law of classes, demonstrable by logical analysis" (p. 81). "Since the principle is purely logical, presupposing nothing about its data or its objects except that they be members of classes—a status that no conceivable entities could avoid—it makes induction quite independent of any supposed maxim of causation, uniformity, or sufficient reason" (p. 202).

² A chapter-heading.

If the nature of our data in induction involved membership in a class that must include other members, *existent or to be existent*, than the data themselves, then their nature would prove the existence of other particulars, and Hume would be wrong. Or if their nature involved that the possible other members of the class would probably if they existed have a further quality like that of the data, besides belonging to the class, then again their nature would prove a superadded fact respecting existence, though a conditional fact and a fact of probability alone; their implication would stretch out into the world of reality beyond themselves. But plainly neither of these suppositions is or could be true. It is other *possible or conceivable* members and qualities only that the class must contain to which they belong. And to this Hume could have no objection, for it does not contravene his thought.

Yet it is the idea that they are members of a class from which the author derives his whole theory of the basis of induction. The class-idea is the hat out of which he gets the rabbit.

The broadest comment to be made on Professor Williams's philosophy of induction is the following: if the only element you introduce into the reasoning besides your data is an explicative or "analytic" proposition, it can never enable you to infer any existent or probable existent, even if it be only a quality. If your major premise had said, "This kind of fact is always coupled with a certain other" (a synthetic proposition), then you could have concluded, I repeat, to further fact—a real induction. But if it only says, "This kind of fact always contains a constituent attribute of this kind of fact" (an analytic proposition), you are not enabled to go further; you are left with your data and nothing else on your hands. Upon such a major premise induction can never be founded. What is apparently deemed the strength of the argument, its economy of philosophical assumption and immunity in that respect from scepticism, consisting in its having dispensed with all but analytic, that is, self-evident foundations, turns out to be its weakness. This is simply one aspect of a truth that we may submit as a fifth among the principles that the book obliges us to recall.

5. *We can not prove from the definition of terms, no matter what they are, nor from any analytic proposition, that something will exist or probably exist; nor can we even when the proposition is taken in conjunction with concrete data.*

(If the principle and warrant of our empirical knowledge, the saving and governing knowledge of our life, arose out of the depths

of "identical" and merely verbal propositions, what a singular logic would be ours!)

Coming a step closer to the specific argument of the book we may add, therefore,

6. *No law of numbers, no mathematico-logical laws, can prove the existence or probable existence of particular units in nature or particular qualities of such units.*

As Hume would put it, we can not in inference pass from "relations of ideas" to "matters of fact." In other words, we can not infer from the relations of implication amongst abstract terms of thought that anything concrete exists. *Even granted that certain units (our data) exist*, we can not deduce from such relations that other units exist—either certainly or probably. Terms imply according to their definition. There are two cases possible. Either our term implies another existent, as "husband" implies a wife, in which case we must have separate and empirical evidence of the other existent before we know that the term is applicable; or it does not imply another existent, in which case it can not be used to prove that there is any other. In neither case does our datum *plus* a definition or *plus* any analytic proposition prove the probable existence of anything else, nor even a probable existent quality of it, in case the thing itself does exist.

And when we watch Professor Williams at work basing induction on the law of large numbers we find him obliged, as we have seen, to make a factual assumption about the whole class with which he is dealing, namely, that at worst one-half are like the sample, which assumption is not analytic and not a truism and not deducible from any truism.

V

In conclusion may be mentioned Mr. Williams's treatment of logical implication as if it had degrees. He speaks of "a degree of implicative connection intermediate between strict entailment and inconsistency" (p. 47). Again, "a non-demonstrative logical implication" (p. 134). Again, "a relation analogous to entailment, albeit of an intermediate degree" (p. 46). Etc.

Surely there can not be such a thing as a degree of implication. A degree of probability—yes; but not a degree of implication. Implication is entire and absolute or it is not what is meant by the term. If the conclusion does not strictly follow from the premises then it does not follow at all. To follow means to be true if the premises are true. It may be said that in some cases it is only

probable if the premises are true. But then the probability does follow, and unreservedly. A probability may be implied as truly as a certainty; all depends on the content of the premises.³ But in that case the conclusion is certainly true if the premises are, the conclusion being that a probability obtains.

He formulates "the proportional or statistical syllogism" thus: if m/n M is P , and a is M , then there is a probability of m/n that a is P . And he tends to treat it as in a sense or degree deficient or falling short, in that it issues in a probability only, which accrues, as a substitute that we must put up with, in place of a conclusion that is certain.

The shortcoming, however, is not in the probative force of the syllogism but in the knowledge with which it sets out. Granted that knowledge, granted that we understand the premises in their completeness, the logical force of the argument is in no respect short of absolute implication and coercion. Once more, the conclusion as conclusion from those premises is certain and not merely probable, though it is only the assertion of a probability. And better than certain the inference could not be. Probability is not a growth that germinates in the cracks and gaps of a deficient syllogism. I am not offering objection to any artifices of procedure that prove convenient for mathematical logic. What I am saying is that it is only by a confusion of thought that we can assert degrees of implication.

Mr. Williams writes: "What we require is an 'ampliative' inference (to use Peirce's phrase), proceeding in accordance with abstract principles whose validity is evident or demonstrable in the same way as the rule of the syllogism, from factual premises . . . to something further" (p. 11).

But if it passes to something further, if it passes beyond the exact contents of its premises, it is not deduction. If it does not pass beyond it is not "ampliative." When is deduction not deduction? When it is "ampliative." It is the whole essence, warrant, claim, and soul of deduction to be explicative. What Mr. Williams would have to do, what fundamentally he is trying to do, is to seek a rational support for induction by an explicative process. (This term is used just here, of course, like Peirce's term, in a wider sense than the established one, namely, as the opposite of the latter.)

So the last of our relevant principles is:

³ Mr. Williams explicitly discusses this matter just as he explicitly discusses Hume and just as he discusses or approaches other matters of principle put forward here. In this brief article I can not attempt to enter into all the indentations of his coastline, but I steer a course which I hope subtends them.

7. *There are no intermediate degrees between following from premises and not following from them. There is no such thing as half-following or quarter-following.*

This is not, of course, a review of the book. Here I am concerned with but one thing, the thread of proof that runs through it. There is much in the book that awakens high admiration. But it does leave a deep regret that rare capacities and knowledge should have been devoted to an enterprise that Hume exposed as impossible two hundred years ago: the laying of a deductive foundation for induction. The more plausible such an attempt is made, the more it interferes with the advance of philosophy, which is wholly dependent on the recognition of distinctions once they are discovered.

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COMMENTS AND CRITICISM

A NOTE ON "INSIGHT"

Donald Williams in his book *The Ground of Induction*¹ cautions his readers against the reliance upon "insight" as a ground of truth in that it is a recourse to mysticism and dogmatism and fanaticism. There is no such faculty, he says, and to claim that there is is usually the warrant for the justification of some presupposed dogma. And yet throughout his book he mentions innumerable times the fact of man's native logical wit. What is this native logical wit if not the "insight" he warns against?

Those of us who adhere to the scientific method and to the logic of science, and to Donald Williams they are the same, to which we agree, need not look upon the power of "insight" of man as a mystical faculty, nor as a non-existent one. However, we are still at the stage where we must admit that "insight" is still mysterious, or still unexplained. It operates at every moment of human life where the creative response to stimuli is made necessary by the novelties of experience. Where life is automatic and reflexive and habitual there is no need of insight. Where people are themselves without insight they rely upon the insights of others or the accumulated and codified insights of tradition and history and custom.

At the lowest level of the operation of insight—a child learning to walk, let us say—we find the inexperienced human mind relying completely upon this faculty. And at the highest level—Donald

¹ Harvard University Press, 1947.

Williams reflecting upon his theory of "dialectical induction," let us say—insight is operative. It is still at the present stage of our knowledge the ungraspable principle of the measurable graspable principles that constitute knowledge and logic.

Whereas Hume could not verify the existence of this human faculty and succumbed to his scepticism, it is not necessary for us to do so. Hume failed because he did not believe in truth. Those of us who believe in the attainment of truth start out with the advantage of being able to believe in a method or methods of attaining it. It follows necessarily that we have faith in man's native ability to construct nets for the fishing and catching of truth. It is this native ability that is the lair of that mysterious, but not mystical, faculty called "insight."

In claiming the existence of "insight" it does not mean that we must challenge the validity of "dialectical induction." As a method of testing "insight" it is a remarkably reliable one. As a check upon insights that may claim to be true but are false it is again most reliable. Indeed, if we were to forego the use of "dialectical induction" we would be making "insight" into a mystical faculty.

MARTIN WOLFSON

BROOKLYN, NEW YORK

BOOK REVIEW

The Ground of Induction. DONALD WILLIAMS. Cambridge, Mass.: Harvard University Press. 1947. ix + 213 pp. \$3.00.

The hope of supplying a "rational justification" for inductive inferences in general, where induction is defined as any inference from observed cases to unexamined ones, continues to leaven philosophic reflection. Since Hume's critique of classic rationalism such justification has been attempted in various ways: on the basis of theological assumptions, of assumptions concerning the constitution of the cosmos, of analyses of causality, of theories dealing with the structure and faculties of the human mind, of considerations drawn from analyses of probability. However, proposed demonstrations of the necessary validity of induction simply beg the problem at issue if universal premises concerning matters of fact are assumed in the alleged proofs. Many thinkers, past as well as contemporary, who agree with Hume that no propositions about matters of fact are logically necessary and who also maintain that such propositions are unavoidable as premises in any attempt to establish the worth of induction, have therefore concluded that an *a priori* justification of inductive inferences is im-

possible. To such thinkers there is a significant general problem of induction, only if the problem is understood as one calling for an adequate descriptive analysis of the methods actually employed in the successful pursuit of factual knowledge.

Professor Williams's book reopens these much debated issues, and reaffirms the belief that the ground of induction is more than "irrational belief" or "pragmatic postulation." It is in effect a vigorous protest against what he regards as the "scepticism" concerning the powers of reason displayed by current positivistic and pragmatic doctrines. The central thesis of his book is that the validity of ampliative inferences can be certified by purely analytical, *a priori* means, without using a single assumption concerning contingent matters of fact. More particularly, he claims to be able to demonstrate rigorously, simply by considering purely formal relations between propositions, that "knowledge that in an observed part of a class *M* the property *P* is present in a certain proportion gives us a *reason*, analogous to that provided by the premises of a syllogism though less conclusive, for believing that in the whole of the class *M* the property *P* is present in a similar proportion" (p. 20).

The substance of the book is devoted to an attempted proof of this heroic thesis; the remainder is concerned with a comparison and criticism of rival analyses of induction, and with the application of Mr. Williams's chief conclusion to the logic of science and to several standard problems of philosophy. Although much that is said in connection with these matters is arresting, it is with Mr. Williams's central contention that the present review will be occupied. His argument falls into two parts, the first dealing with the nature of probability, and the second with the probability of one type of ampliative inference. It is with the first question that any appraisal of his argument must therefore begin.

Mr. Williams's views on probability and his attempted *a priori* justification of induction are not novel. He explicitly recognizes that they are only variants of the classical Laplacian account of probability, and he also acknowledges his indebtedness to certain aspects of Peirce's thought. Moreover, he follows Keynes in regarding probability as a logical relation between propositions, though he rejects as "mystical" the latter's contention that it is an unanalyzable and generally non-quantizable relation. But while laying no claim to novelty, Mr. Williams does claim that his presentation of familiar doctrines is clearer and more persuasive than are the more customary expositions, and that his formulations have successfully outflanked difficulties which beset these latter.

To come to details, Mr. Williams's account of probability is

briefly as follows. Traditional formal logic recognizes just two "credibility relations" between propositions: the relation of "certainty" (when a proposition p entails another q), and the relation of "contracertainty" (when p precludes q). There are, however, intermediate cases of credibility, of the same kind in respect to the "logical necessity and objectivity" of the bond between premise and conclusion which traditional logic notes, though different in degree. The typical and fundamental variety of such intermediate relations of credibility (or probability) is taken to be the statistical syllogism: if a proportion m/n of a class M has a property P , and a is a member of M , then, with a degree of probability m/n , a is P . The relation between premises and conclusion of such a syllogism is held to be a *logical* relation, since the inference from premises to conclusion derives its cogency from the *logically necessary* fact that inferences of this form having true antecedents must have just m/n true consequents—with the obvious proviso that only distinct propositions are counted in arriving at the proportion. (In this summary exposition the class M is assumed to be finite; Mr. Williams also briefly considers the case when M is allegedly infinite.) Thus, just as in the categorical syllogism: All dogs in Boston are biters and Skipper is a Boston dog, necessitates the conclusion that Skipper is a biter; so in the statistical syllogism: .75 of the dogs in Boston are biters and Skipper is a Boston dog, lends a probability of .75 to the conclusion that Skipper is a biter. The sole difference between the two inferences is that while in the former the conclusions are *always* true when the premises are true (where all possible minor premises referring to different individuals are considered), in the latter only .75 of the conclusions are true under the same hypothesis.

It is evident from this summary that Mr. Williams has adopted the familiar Laplacian mode of specifying probabilities in terms of the ratios of sets of exhaustive and exclusive possibilities or alternatives, couched in the language of Peirce's "truth-frequency" analysis of probable inferences—with the one chief difference that he has dispensed with the Laplacian requirement that the alternatives must be "equiprobable." Accordingly, given the statistical composition of a class of elements with respect to their possessing an indicated property, the degree of probability with which the premise "necessitates" the conclusion that some specified member of the class has that property, is a question which pure logic is competent to decide. No empirical information other than that supplied by the statistical premise is required for this task. Thus, given that half the faces of a cubical die are marked with an odd number of points and that a is one of the

faces, it follows with a probability of $\frac{1}{2}$ that a is so marked; and no experiments, such as repeated tosses of the die, are required for establishing this probability. Mr. Williams is thus obviously correct in claiming that probability as he has defined it is a graduated *logical relation* between propositions.

None the less, his elimination of the Laplacian requirement that the alternatives entering into the definition must be equiprobable, raises at least one serious difficulty for himself, however much it enables him to ignore others as irrelevant: for in consequence of the elimination of this requirement, premises that are logically equivalent can be shown to stand to the same conclusion in *different* degrees of probability. For example, if a bag contains just two marbles, one red and one white, then according to Mr. Williams the probability is $\frac{1}{2}$ that a (a specified marble in the bag) is red. But the premise of this inference is logically equivalent to the assumption that the bag contains one white marble and a red one which either has a diameter of an inch or a diameter different from an inch. And on this latter formulation of the premise, the exhaustive and exclusive alternatives for any specified marble a in the bag are: it is red with an inch diameter, it is red with a diameter different from an inch, and it is white—so that the probability that a is red is now $\frac{2}{3}$. Mr. Williams is not unaware of this uncomfortable outcome, although he diagnoses it as being simply one of the “growing pains of a subtle and lively subject” which he handsomely bequeaths to others to eliminate (p. 162). Some of his readers will be unable to agree with him that this difficulty presents no special obstacle to his proposed emendation of the Laplacian definition of probability. However, no reader can rightly deny that Mr. Williams is on firm ground when he maintains that, on his definition, probability is a relation having the same “logical necessity and objectivity” that belongs to the more familiar relations treated by traditional formal logic.

But Mr. Williams enters upon less firm territory when he proceeds to ground the “reasonableness” of expectations concerning matters of fact in his relations of probability. For he is compelled to face the crucial question whether the credibility relations he has specified can justly serve as the basis for warranted prediction and responsible action—whether, in particular, “a steadfast adherence to probable propositions . . . infallibly in the long run result[s] in an amount of profit proportionate to the probability.” And he goes on to explain that “although we cannot be sure that in believing any one merely probable proposition we must be right or even partly right, we ought to be sure

that by persistently believing in highly probable propositions we shall be right more frequently than if we believed improbable ones" (p. 59). This is the issue he discusses under the heading "The Maturity of Chances," and its meaning will perhaps be grasped most quickly if the question is put in terms of one of Mr. Williams's own illustrations. Suppose that there are 1000 bags each containing 900 red marbles and 100 white marbles, so that the probability of any specified marble in any one of the bags being red is .9; and suppose that one marble is to be extracted from each of the 1000 bags. How many red marbles will appear in the set of 1000 marbles thus obtained? The problem therefore is this: given the statistical composition of each of 1000 bags (that is, given the probabilities of red marbles in these bags), have we any rational ground for expecting that these probabilities will "mature" in the 1000 marbles actually extracted from the bags?

Mr. Williams's answer is unambiguously in the affirmative. For while he is careful to note that it does *not* follow demonstratively from the premises that .9 of the marbles extracted will be red, he does maintain that the premises *logically necessitate* with a "high probability" the conclusion that "the actual proportion of successes will be approximately the same as the single probabilities, namely .9," the degree of this high probability being greater than .99. Though the example is trivial, it is nevertheless typical of the uses to which information about probabilities is commonly put. Mr. Williams's general conclusion therefore is that it is highly probable that chances do mature; and the ground he offers for this high probability is the analytical necessity of the statistical syllogism and of the "logical law of large numbers" (pp. 60-61).

But though Mr. Williams is confident he has produced a purely logical proof that chances mature with a high probability, his demonstration is in fact incomplete without the introduction of a special empirical assumption, so that his argument as it stands is *demonstrably fallacious*. It must be noted, in the first place, that when the proposition that a specified marble in a bag is red is said to be necessitated with a probability of .9 by some premise concerning the statistical composition of the bag, all that this means on Mr. Williams's account of probability is that .9 of the marbles in the bag are red. The assertion means nothing else. In particular, the degree of probability mentioned in it supplies no information whatsoever concerning the approximate ratio with which red marbles may be extracted from the bag—unless a further, most crucial assumption is added that the ratio of red marbles extracted is approximately the same as the ratio of red marbles in

the bag. That this assumption is not a logically necessary one, is perhaps too patent to require explicit argument. Nor does it follow necessarily from the premise that .9 of the marbles in the bag are red, as is evident if one recalls Mr. Williams's explanation of the cogency of the statistical syllogism. It is a necessary truth, upon which Mr. Williams rightly insists, that in syllogisms of the form: "If .9 of the marbles in the bag are red and a is a marble in the bag, then a is red" (where " a " designates distinct marbles) with true antecedents, the consequents are true with a relative frequency of .9. But it is just an error to maintain as a necessary truth that in inferences of the type: "If .9 of the marbles in the bag are red and a is a marble extracted from the bag, then a is red" having true antecedents, the consequents are true in the ratio of .9. Accordingly, while the assumption in question may in fact be true and frequently appears to be true, it can not be accepted without support from *independent* empirical evidence. But without that assumption Mr. Williams's demonstration does not hold water; with it, he has failed to establish by means of pure logic alone that with a high probability chances do mature.

Mr. Williams's appeal to the "logical law of large numbers" or Bernoulli's theorem to support his case involves an identical non-sequitur. For on his definition of probability, this famous theorem simply states a fact of arithmetic: it specifies the proportion of combinations satisfying prescribed statistical conditions, in the set of all possible combinations of equal size that can be formed out of the elements belonging to some class with a given statistical composition. Thus, reverting to the earlier example of 1000 bags each with 900 red and 100 white marbles, the theorem asserts the following. Consider the set M of all possible combinations with 1000 marbles in each, where each combination contains just one representative from each of the 1000 bags. The number of such combinations in M is 1000 raised to the thousandth power. Of these, a certain proportion contain, say, anywhere from 850 to 950 red marbles, and a familiar calculation shows this proportion to be greater than .99. Accordingly, the ratio of combinations in M whose statistical composition is approximately the same as the composition of any one of the 1000 bags (the approximation is good within 5%), is close to 1; and using Mr. Williams's definition of probability, it can be asserted as a necessary truth that under the assumptions given, there is a probability close to 1 that any specified member of M contains approximately .9 red marbles. However, Mr. Williams's conclusion is that there is a high probability that the chances *mature*—that is, that if one marble is *extracted* from each of the 1000 bags, the probability is greater than .99

that approximately .9 of the 1000 marbles thus obtained will be red. But this conclusion in no way follows from Bernoulli's theorem. For while that theorem does specify the probability with which a combination belonging to M contains approximately 900 red marbles, it yields no information whatever concerning the proportion of combinations satisfying this statistical condition that may be *actually selected* from the 1000 bags—unless, once more, the independent factual assumption is introduced that the ratio in which such combinations are *actually selected* is the same as the ratio of such combinations in the set M of all *logically possible* combinations. The logical law of large numbers thus turns out to be but a broken reed if used to support an *a priori* proof that chances mature with a high probability, and Mr. Williams's conclusion that chances do so mature must be judged as unproven.

We are now prepared to consider the second half of Mr. Williams's argument—his *a priori* justification of induction; and in the light of what has already been said, little space will be required to evaluate his demonstration. The problem to which he addresses himself is the following. In induction we are apparently faced with a situation which is the reverse of that presented by the statistical syllogism. For in the statistical syllogism we assume as a premise a proposition about the statistical composition of some class of elements, and conclude to a proposition about the composition of samples drawn from that class. In induction, on the other hand, our premises supply information about the statistical composition of samples, and our conclusion asserts something about the composition of the entire class from which the samples are drawn. Is there a *logical* ground for inductive inferences, similar to that which can be found for the statistical syllogism? This is the problem Mr. Williams believes he has solved by exhibiting as a logically necessary truth the "inductive principle": any class or population of individuals will probably and approximately match any of its samples in some specified statistical composition, provided that the samples are sufficiently large.

Mr. Williams's *a priori* proof of this principle traverses territory already familiar, for the argument is simply a restatement of Bernoulli's theorem and the statistical syllogism. The demonstration in outline runs as follows. Let M be a class (or population) of individuals, in which a proportion m/n possess some property P , where neither the size of the population nor the numerical value of this ratio is assumed to be known. Let S (the sample population, or hyperpopulation) be the set of all possible combinations (or samples) of k elements each, formed out of the population M . It then follows necessarily that if k is large enough, the overwhelm-

ing majority of samples in S have a statistical composition approximately equal to m/n . Thus far Mr. Williams is simply reporting an analytical truth of arithmetic. He concludes from it that "it is overwhelmingly probable" that any sample actually drawn from M matches the population in statistical composition, so that (since the relation of matching is a symmetrical or convertible one) it is highly probable that the population "has approximately the same composition which we may . . . discern in the sample" (p. 93). He believes he is therefore entitled to assert that

Without knowing exactly the size and composition of the original population to begin with, we cannot calculate . . . exactly what proportion of our "hyper marbles" [i.e., of the sample population] have the quality of nearly-matching-the-population, but we do know *a priori* that most of them have it. Before we choose one of them, it is hence very probable that the one we choose will be one of those which match or nearly match; after we have chosen one, it remains highly probable that the population closely matches the one we have, so that we need only look at the one we have to read off what the population, probably and approximately, is like. [Pp. 98-99.]

Mr. Williams terminates his discussion of the probability of induction with a bold *Quod erat demonstrandum*. Nevertheless, the demonstration involves the same fatal flaw in the interpretation of Bernoulli's theorem that has already been noticed in the discussion of the maturity of chances. Were Mr. Williams's reasoning sound, it would follow, merely on the evidence that the administration of a hitherto untested drug to a single "largish" group of sufferers from some disease had improved the condition of most of them, that it is highly probable that the administration of the drug to the entire population of sufferers from that disease would produce beneficial results in approximately the same ratio. Were his proof cogent, it would be reasonable to maintain the absence of other evidence that since a man of 65 has lived through about 24,000 revolutions of the earth around its axis, it is highly probable that he would not fail to be alive during every future revolution of the earth. To put it mildly, such consequences of Mr. Williams's thesis are not plausible, and hardly add persuasive force to his argument. He has in fact attempted to anticipate the apparent damage they do to his case by a discussion, unfortunately not altogether explicit, of the rôle of "previous inductions" in contributing to or detracting from the probability of new hypotheses (p. 117). But these supplementary remarks on the logic of science do not affect the nerve of his *a priori* demonstration of the inductive principle, and do not remedy its fatal weakness. For as has already been noted, the demonstration in order to be cogent involves the tacit but unsupported assumption that the relative frequency with which samples possessing a certain statistical compo-

sition are *actually drawn* from a population is approximately the same as the ratio of such samples in the *sample population of logically possible samples*.

Mr. Williams is occasionally aware that such an assumption is indispensable to his argument. He explicitly recognizes the "presupposition" that "any one sample . . . is antecedently as likely to be selected as any other" (p. 99); and he acknowledges that "certain kinds of samples, or samples collected according to certain prescriptions, are at any rate more likely to be representative than others" (p. 118). But he does not stop to inquire what is involved in his use of the word "likely"—the word *can not* mean what he has agreed to understand by the word "probable" without making nonsense of his statements; and he maintains that the "presupposition" just mentioned is simply an "innocent truism." That it is not a truism is recognized in recent physical theory; for the use of the so-called Bose-Einstein statistics for specifying probabilities in certain domains is in fact an explicit rejection of it. It is undoubtedly because he thus fails to appreciate the significance of this "truism" that he must confess that "If there is any puzzle about induction, . . . it is how we manage to go wrong as often as we do" (p. 167). For without the assumption, sometimes warranted by the facts and sometimes not, that a given method of sampling a population would actually select all samples of a specified size with roughly the same relative frequency, arithmetic can not assure us that we are bound to uncover more samples approximately matching the population than samples that do not.

If these comments on Mr. Williams's argument are well taken, he has produced considerably less than an *a priori* demonstration of the validity of induction. His book does possess the undoubted merit of directing attention to a problem that is important for all theories of knowledge. It is indeed questionable whether, as he believes, the spread of the conviction that there is no *a priori* foundation for induction "will slowly shatter civilized life and thought, to a degree which will make the modernist's loss of confidence in *Christian supernaturalism*, so often cited as the ultimate in spiritual cataclysms, seem a minor vicissitude," or whether "To dispute the rational validity of induction . . . is to deny that reason and good-will have a purchase on reality, to deny mind's hope of acclimating itself to any world whatever, natural or supernatural" (p. 16). But, in any case, the study of the principles of evidence and of the grounds upon which evidence acquires probative force, is an occupation worthy of the best efforts of philosophers.

ERNEST NAGEL

BOOK NOTES

Modernity and Liberty. HORACE MEYER KALLEN. (The University of Buffalo Centenary Lectures on the Problems of Freedom in the Modern World.) Buffalo, New York: The University of Buffalo Studies, Vol. 18, No. 2. March, 1947, pp. 69-130. \$1.00.

For Professor Kallen, "modernity" has no reference to time; it is "a quality and form of human living far more surely than it is a date in history" (p. 75). There were "modern" men in ancient times as there are "un-moderns" living today. The essential difference between the modern and the un-modern quality of living is that the modern mind has as its vital principle "openness, mobility in all the relationships of men and ideas," whereas the un-modern mind views the world as an unchanging, closed, hierarchical order. "The un-modern mind exalts teleology over mechanism and subordinates technics to agency. It thinks experience statically, in terms of completion, not dynamically in terms of progression" (p. 76).

Having set up this distinction, Kallen inevitably sees the fulfillment of modernity in liberty, the culmination of un-modernity in authority. The freedom which is the hallmark of modernity is not merely the "freedom of the law-taker," *libertas obedientiae*. It is not merely the willing harmony of the individual with the social order of which he is a part. "The modern way makes freedom in and for the person the first and last thing; it takes all authority and all law to be secondary and derivative. It demotes them from powers that rule into instruments that serve" (p. 85). Institutions, he recognizes, are organisms; but he insists (gallantly if unfashionably) that institutions are "organizations of liberty" as are habit, law, order, and the mechanism of nature. Humanity is central; and freedom is the heart of the humaneness of humanity.

From this briefly sketched humanism, Kallen examines the organization of freedom in nature, in the democratic society—"the free society of free men," and in the extension of democracy to the making of an international mind. There is nothing here that has not been said before, and nothing that can not bear many more repetitions; surely it is as vitally important to bear testimony to man's faith in man as it is to assert man's faith in God.

If there is any point at which Kallen's thesis requires elaboration, it is in his assertion of science, industrialization, democracy, and peace as the factors which "together constitute the differentiae of the modern mind" (p. 76). Even if the togetherness of these be stressed, and the misuse of these factors when taken separately be emphasized (as Kallen does for the authoritarianisms of Nazi

Germany, Spain, Russia, Vatican City, and Nationalist China) there seems to me a danger of spurious oversimplification in the virtual equating of the democratic faith and process with the scientific spirit and method. Professor Kallen should explain in much greater detail how either the determinism of nineteenth-century science or the statistical indeterminacy of twentieth-century science can become the instrument of a freedom which is creative and not merely obedient. Further, I can not see how science can be anything but indifferent to what order of society it serves; the atom did not explode at Hiroshima because it was the instrument of a free society of free men, any more than because it was the instrument of Christian men. The atom cares nothing for either democracy or Christianity.

J. L. B.

Milton's Paradise Lost. A Commentary on the Argument. JOHN S. DIEKHOFF. New York. Columbia University Press. 1946. 161 pp. \$2.00.

An examination of Milton's theory of poetry indicates his acceptance of the classical view that the chief function of poetry is to instruct. The poet is not only a maker but also a teacher. Poetry should also persuade, should move men to follow the way of life indicated in the instruction. Dr. Diekhoff has set himself to analyze *Paradise Lost* as a moral poem; to find out what instruction Milton intended the poem to convey to its readers.

Before entering into his discussion of this question, Diekhoff examines in terms of rhetorical theory the apparently arrogant self-concern of Milton's prologues, and decides that they serve the purpose of establishing Milton's claim to an authoritative right to discuss the central themes of the poem. Milton attempts also to "establish an attitude toward his subject" by careful selection of detail and choice of descriptive epithet. It is this latter rhetorical technique which provides Dr. Diekhoff with his criterion of Milton's intention in the poem.

The chief polemic of this little work is against those who, like Shelley, find enough magnificence in the figure of Satan to insist that Milton, though he might have intended to justify God, succeeded rather in glorifying Satan. Shelley's argument in his "Defence of Poetry" Diekhoff terms eloquent nonsense, and his refutation consists largely in pointing to Milton's adverse comments upon Satan. Other themes which are considered are "Man's Guilt," "God's Justice," and "God's Providence and Mercy." In these sections, Diekhoff's careful analysis reveals Milton as not par-

ticularly sound in his Puritanism. Milton appears rather as a Christian Platonist for whom reason is the highest of the virtues, and for whom God's rule is by virtue of God's merit, not arbitrary assumption.

Diekhoff's reading of Milton is on the whole an excellent conservative attempt to find out what Milton meant. It comes, therefore, as more of a shock when the author permits himself an occasional tendentious sentence which weakens his case by losing the sympathy of this reader at least. Thus "Twentieth century ignorance of God and of angels need not interfere with our acceptance of Milton's use of them. The poem may even help to dispel some of that ignorance" (p. 11). "The grandeur of Satan had led some who do not admire God into admiration of the devil" (p. 26). "Those who do not find [Satan] abhorrent have misread the poem. They will do well to ask whether their liking for Satan does not spring from enmity to God" (p. 48). "Those who find Adam right in preferring Eve and turning his back on God . . . may well ask whether they do not share in Adam's sin, preferring lesser goods to the greatest" (p. 75). "The admirers of Satan have often perhaps been those to whom the word *rebel* is not a term of reproach, but one of commendation" (p. 78).

This tendentiousness comes home to roost in the final chapter, which is a sermon with remote connections with Milton, under the title "The Way of Virtue." Here Diekhoff presents his views on the determinism of modern philosophical ethics, which somehow he finds coexisting with a concern for freedom; not liking determinism, neither does he approve of freedom unless interpreted in his own way. So intermingled by this time are Diekhoff and Milton that it is not clear to me which speaks the epilogue:

By persevering effort, by intelligence and self-discipline, prudence and temperance, fortitude and justice, by faith, hope and charity, we may achieve the individual and communal happiness that is the reward of virtue in men and in nations. [P. 149.]

It is a pity that these homiletic intrusions have been left to spoil a lucid exercise in literary analysis.

J. L. B.

NOTES AND NEWS

We regret to learn of the death of Dr. Edwin D. Starbuck, Professor of Philosophy and Psychology and Director of Character Education Research at the University of Southern California, on November 18, 1947, at the age of 81.

We print below the program of the Second Inter-American Congress of Philosophy to be held jointly with a General Meeting of the American Philosophical Association and the Forty-Fourth Annual Meeting of its Eastern Division, at Columbia University, New York City, December 28, 29, 30, and 31, 1947:

SUNDAY, DECEMBER 28.

4:30 P.M. Informal Tea.

8:00 P.M. Formal Opening of the Congress.

Existe una filosofía Iberoamericana?

Risieri Frondizi (Argentina)

Is There a North American Philosophy?

Ralph Barton Perry (Harvard University)

MONDAY, DECEMBER 29.

9:00 A.M. Oriental Philosophy and Religion.

(Joint Meeting with the National Association of Biblical Instructors)

El extremismo de la filosofía oriental

Vicente Fatone (Argentina)

Philosophy and Philosophers in the Far East

E. A. Burtt (Cornell University)

Discussion Panel: *Swami Nikhilananda*, *Mrs. Cornelia LeBoutillier*,
Richard Hocking, *Chung-Shu Lo*.

9:00 A.M. Theory of Knowledge: Reason and Intuition.

La filosofía de las ciencias . . . *Julio César Arroyave* (Colombia)

Possibilidades epistemológicas de la filosofía existencial

Humberto Piñera Llera (Cuba)

Mysticism and Semantics

Paul Henle (Northwestern University)

Discussion Panel: *Risieri Frondizi*, *A. E. Murphy*, *Virgil C. Aldrich*.

2:00 P.M. Philosophy of Religion and Spirit.

(Joint Meeting with the National Association of Biblical Instructors)

The Problem of God *Clarence Finlayson* (Chile)

Sobre el espíritu y la actitud espiritual en las grandes culturas
Francisco Romero (Argentina). (Read by *E. S. Bright-*
man)

Method in Philosophy and Theology

Robert L. Calkoun (Yale University)

Discussion Panel: *Marjorie S. Harris*, *Gregory Vlastos*, *Charles Hart-*
shorne.

7:00 P.M. Dinner of the Congress.

9:00 P.M. Smoker.

TUESDAY, DECEMBER 30.

9:00 A.M. Metaphysics: Existence.

Concept, Process, and Reality

Charles De Koninck (Université Laval, Quebec)

Ser, valor y existencia . . . *Aníbal Sánchez Reulet* (Argentina)

Metaphysics and Existence

W. T. Stace (Princeton University)

Discussion Panel: *Marvin Farber, Otis Lee, Paul Weiss.*

9:00 A.M. Aesthetics and Philosophy of Art.

Desarrollo estético de la creación . . . *José Vasconcelos* (Mexico)

Arte y sociedad *Samuel Ramos* (Mexico)

Nature, Convention, and Art . . . *Euryalo Cannabrava* (Brazil)

Two Types of Aesthetic Experience, or the Art of Delight and
the Art of Relief

Stephen C. Pepper (University of California at Berkeley)

Discussion Panel: *Eliseo Vivas, J. Loewenberg, Henry D. Aiken.*

2:00 P.M. Ethics and Philosophy of Law.

On a Problem of Ethics *Camille Lhérisson* (Haiti)

Justicia y seguridad jurídica. Discusión de la tesis de Gustavo

Radbruch *Eduardo García Máynez* (Mexico)

The New Subjectivism in Ethics

Brand Blanshard (Yale University)

Discussion Panel: *Juan Barona, Eadoslav A. Tsanoff, Charles A.
Boylis.*

7:00 P.M. Annual Banquet of the Eastern Division of the American Philosophical Association. The Presidential Address by Cornelius Krusé: "Philosophy's Contribution to World Understanding."

WEDNESDAY, DECEMBER 31.

9:00 A.M. Philosophical Anthropology.

Individualidad y comunidad *Eduardo Nicol* (Mexico)

Concerning Man *Carlos Cuelo Fernandini* (Peru)

Compenetración entre la cultura Iberoamericana y la Norteamericana *Leopoldo Zea* (Mexico)

The Comparative Method and the Nature of Human Nature

John Allan Irving (University of Toronto)

Discussion Panel: *Miguel Jorin, Hugh Müller, J. H. Randall, Jr.*

2:00 P.M. Philosophy of History and Culture.

La filosofía de los valores

Benigno Mantilla Pineda (Colombia)The Philosophy of Culture in Its Bearing on the Philosophy of History *F. S. C. Northrop* (Yale University)

Philosophy of Democracy as a Philosophy of History

Sidney Hook (New York University)Discussion Panel: *Patrick Romanell, Maurice Mandelbaum, Irwin Edman.*

2:00 P.M. The Philosophical Bearings of Modern Logic.

(Joint Meeting with the Association for Symbolic Logic)

E. Husserl y J. Joyce, o Teoría y práctica de la actitud fenomenológica *Juan David García Bacca* (Mexico)

El problema del método en la investigación filosófica

Jorge Millas (Puerto Rico)

The Relation of Logic to Metaphysics

Everett J. Nelson (University of Washington)

Some Reflections on the Theory of Systems

Nelson Goodman (University of Pennsylvania)Discussion Panel: *Elizabeth F. Flower, Alice Ambrose, W. V. Quine.*

The annual meeting of the Charles S. Peirce Society will be held in Room 716 Philosophy Hall, Columbia University, December 28, 1947, at 2:30 p.m. Much important business must be considered, including a report and discussion on the projected volume of essays on Peirce. Inquiries may be addressed to the secretary of the Society, Frederic H. Young, 73 Orange Road, Montclair, New Jersey.



We are pleased to announce the appearance of a new philosophical quarterly entitled *The Review of Metaphysics*. Its editor is Professor Paul Weiss and its managing editor is Eli Karlin. Fr. Philotheus Boehner, Charles Hartshorne, Anton Pegis, John Wild, and F. S. C. Northrop are on its editorial board.

The table of contents of the first issue is as follows: "Dialectic and Negation" by Otis Lee; "God as Absolute, Yet Related to All" by Charles Hartshorne; "Essence, Existence and Being" by Paul Weiss; "An Ontological Examination of Causation" by Abner Shimony; Review article—*The Politics of Aristotle*, ed. by E. Barker, reviewed by Emil I. Fackenheim.

We take the liberty of quoting the following statement by the editor: "The Review of Metaphysics is an independently published philosophical quarterly which solicits the support of everyone interested in the development of a vigorous journal in America devoted to the pursuit of fundamental speculative and historical studies. It is the intention of The Review to publish technically competent contributions, whatever their source. In furthering this work the Editor will be assisted by a Board of Consulting Editors, although final responsibility for the selection of all editorial content will rest in his hands."

The address of the new review is The Review of Metaphysics, 201 Linsly Hall, Yale University, New Haven, Connecticut. The yearly subscription is \$5.00, single copies, \$1.50.

It must be evident to all who are acquainted with philosophical periodicals that the appearance of this new review is an event of major importance and that it presents a welcome opportunity for the publication of contributions to metaphysics. We take this occasion to congratulate the editors and to wish the *Review of Metaphysics* a long and distinguished career.

In view of Professor G. E. Moore's wish to be relieved of the editorship of *Mind* on the grounds of health, the Executive Committee of the Mind Association at a meeting held July 5, 1947, appointed Professor Gilbert Ryle, Waynflete Professor of Metaphysics in the University of Oxford, to be the Editor of *Mind* in the place of Professor Moore for the issues of the journal during the three calendar years beginning January 1, 1948.

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THE JOURNAL OF PHILOSOPHY

NOTES ON THE JUSTIFICATION OF INDUCTION

DIFFERENT philosophers have expressed different views, almost always irreconcilable with one another, on the subject of induction; especially on that of its justification, or, as it is usually called, *the problem of induction*. In general terms, the problem may be put so: What is the justification of the belief that the future resembles the past, that the unobserved resembles the observed? Authors on induction seldom fail to stress the importance of *inductive reasoning in science and everyday life*, intending to indicate thereby the indispensability of some answer to the problem for an adequate theory of knowledge.

It has often been repeated that an appeal to habit or animal faith would not provide an adequate solution. Recently many philosophers with scientific bent are of the opinion that the attempt to justify induction is futile, the problem of induction is a fictitious one, a *general problem* in its usual formulation does not exist. Nevertheless, they insist, it is not irrational to expect future experience to conform to the past: for when we come to define rationality we shall find that for us being rational entails being guided in a particular fashion by past experience. The genuine problem of induction, according to them, is to formulate scientific method and define the notion of rationality in accordance with science and common sense. Probably this kind of answer does not sound congenial to the majority of philosophers. None the less, it may be a piece of wise advice against overindulgence in fanciful speculations.

Thoughtful scientists find the success of science hard to explain. Some remark that the most incomprehensible thing about the world is that it is *comprehensible*. Others tell us that there is inherent in nature a hidden harmony which reflects itself in our mind under the image of simple mathematical laws,—that is the reason why events in nature are predictable.

Such answers do not seem to satisfy all serious thinkers. Accordingly induction has been said to be the *despair of philosophy*. Occasionally antagonists of contemporary philosophy claim the situation a *reductio ad absurdum* of what they call the subjectivistic and empiricistic approach. Bertrand Russell grants it highly probable that there is nothing better to be done, but observes that

to attempt the possible which *looks* impossible is the summit of wisdom, that a passionate lover of knowledge will not give up the attempt until he has explored every avenue of escape.

As a matter of fact, we do have competent scholars who attempt what looks impossible, proposing various elaborate solutions of the problem. Now and then one solution or another has attracted a considerable number of adherents. Notwithstanding, no solution seems to have enjoyed really wide acceptance, to say nothing of a unanimous approval.

Presumably the disagreement in connection with these solutions is partly due to the fact that the problem in question usually does not receive exact formulation. Specifically, there are two points about which we are often not very clear: (a) what sort of thing is to be justified; (b) what kind of justification is asked for.

Thus Keynes's well-known principle of limited variety has been condemned as providing no satisfactory justification of induction on the ground that it makes ontological assertions of a kind the truth of which we are unable to know with our ordinary means. If the condemnation is right, the reason for it may be specified by saying that Keynes did not give the right kind of justification, although his principle (if granted) does justify what we want to be justified.

On the other hand, we may well agree that no sort of imaginable experience could fail to afford a basis for intelligibility, that there will always be *some* discoverable order, *some* resemblance with the past, however the future may turn up. We may even agree to follow Kant and comment that, if objective validity of knowledge is to be possible at all, certain very general kinds of regularity must hold. Still that would not help much, unless we are able to determine how much regularity and order in future experiences is thereby guaranteed. For example, it may be asked: Is such regularity and order sufficient to ensure that the sun will very probably rise tomorrow? if so, how? It seems that we do want something more than the mere intelligibility of the future, we want success (in some sense) of our predictions. When we ask for a justification of induction, we are seeking a ground for our belief in the future success (in some sense) of our predictions.

If we agree not to allow ontological assumptions and not to stop at a justification *only* of our belief in the intelligibility of the future, then the following conclusions reached by investigation of careful students of induction seem to be indisputable.¹

¹ For a thorough treatment of the points raised in the succeeding three paragraphs, cf. Professor C. D. Broad's "Hr. von Wright on the Logic of Induction," *Mind*, Vol. LIII (1944), pp. 1-24, 97-119, 193-214.

In order to justify inductive reasoning, we may or may not insist that inductive generalizations can be established with theoretical certainty. If we do so insist, we shall find ourselves unable to explain the possibility of future counter instances, unless we exclude it by reconstruing the inductive generalizations as analytic statements. It is legitimate and may be convenient for one to single out certain inductive generalizations and reconstrue them as analytic statements. The only disadvantage is that a statement gives up its rôle of empirical prediction the moment it accepts the privilege of being analytic.

On the other hand, we may grant the lack of theoretical certainty of inductive generalizations and attempt a justification by theorems of probability. These theorems seem to tell us that, in favorable circumstances, inductive generalizations can be justified with high probability. But this means nothing in particular until some interpretation has been put upon the notion of probability. Specifically, we may either adopt the frequency interpretation or adopt some non-frequency interpretation. If we take the latter alternative, we shall at no stage be able to pass from a certain frequency being overwhelmingly probable to it being overwhelmingly frequent. That is to say, on any non-frequency interpretation we have no guarantee that on the whole and in the long run the more probable alternative is the one that is more often realized.

This latter condition is guaranteed analytically on the frequency interpretation. It is, however, to be noted, each of the crucial (for justifying induction) theorems of probability starts with a premise about the probability of events of a certain kind turning out in a certain way. Now, on the frequency interpretation, such premise is itself a statement about limiting frequency which is in turn either assumed as a hypothesis or established by inductive generalization. Hence, here again theorems of probability can not supply a justification for inductive generalization in general.

Thus, in either case, theorems of probability can alone provide no sufficient ground of induction. Attempts to justify induction by resorting to mathematics seem to be misled either by confusing different interpretations of the notion of probability or by introducing new assumptions tacitly.

Let us now turn to several plausible answers in the literature and see how far we can get. Consider first the following argument put forward by Professor D. C. Williams in his book on induction.*

* *The Ground of Induction* (Harvard, 1946); see especially Chapter 4.—Professor Lewis pursues reasoning along similar lines on pp. 272–275 of his new book *An Analysis of Knowledge and Valuation* (Open Court, 1946). But

Let R , say the class of rabbits, be a class of r members. Let t be the number of the members of R which have a specific property P , say whiteness. Suppose R' be any r' -membered ($0 \leq r' \leq r$) subclass of R , and t' be the number of the members of R' having the property P . Then the number n of r' -membered subclasses of R is given by $C_r^{t'} \times C_{r-t}^{r-t'}$. From elementary algebra, we know that n is greatest when t'/r' is nearest t/r . We also know that when r' is large (in some sense yet to be specified) the number of those subclasses of R for which t'/r' is approximately (in some sense yet to be specified) equal to t/r is much greater than that of all the other classes put together. Hence, given empirically that t' members in an r' -membered (r' large) sample of R have the property P , by proportional syllogism we are assured that it is highly probable that t/r is approximately equal to t'/r' . This provides the desired principle of induction adequate to justify inductive reasoning.

Thus, if we have observed r' rabbits (r' large) and found that t' of them are white, then it is highly probable that the ratio of the number of all white rabbits to that of all the rabbits is approximately t'/r' . In particular, if, for example, $r' = 2500$, we can reach our desired conclusion by the following proportional syllogism:—

Major premise: At least 68 per cent of the 2500-membered subclasses of any R do not vary in composition from R by more than 1 per cent;

Minor premise: R' is a 2500-membered subclass of R ;

Conclusion: There is at least a probability of .68 that $|t/r - t'/r'| \leq .01$.

Therein the minor premise is guaranteed by our hypothesis, and the major premise is obtained by mathematical calculation.

Professor Williams contends that his theory "proves the jurisdiction of inductive procedure over all the branches of philosophy as well as over the natural sciences, the professions, and common sense, and it guarantees the relevance of the content of any one of these fields to all the rest" (*ibid.*, p. 202). However, to those long puzzled by the problem of induction, his whole argument may look like a justification of everything with nothing. They may suspect there must be something wrong with the argument.

First let us ask what interpretation is put on probability by Professor Williams. Judging from his tireless attack on the

it is interesting to note that there he does not use the argument to justify induction. On the contrary, he points out that it will have force only if some general ground for validity of induction is assumed beforehand.

frequency interpretation, we may presume some non-frequency interpretation is assumed. But if so, what guarantees induction to lead us more often to success than to disappointment,—granted that we can justify inductive generalizations with high probability on some *a priori* ground? Or is there a bridge between *a priori* probability and frequency? It seems there is no such bridge, at least so long as we stick to a definite interpretation of probability.

Suppose there be 10^{10} bags each containing 5000 balls. Suppose further we have observed 2500 balls from each bag and found all these $10^{10} \times 2500$ balls white. Now we must admit it is logically possible that none of those unobserved $10^{10} \times 2500$ balls will turn up to be white. But the principle of induction established by Professor Williams assures us this is very, very improbable. The same principle also enables us to make many other probability judgments about the color of the unobserved balls of the 10^{10} bags. In particular, take any one bag from these; we can judge it highly probable that at least some of the unobserved 2500 balls of it are white. Similarly with regard to any other such bag. And we can judge it overwhelmingly probable that at least some of the unobserved balls of at least some of the 10^{10} bags are white.

Suppose the unexpected happens. We start to observe the remaining $10^{10} \times 2500$ balls and find none of them is white. What shall we say about our probability judgments made beforehand? If we adopt some non-frequency interpretation, we need not reject them as false. We may say merely that we are not lucky in this particular case. But suppose these be all the probability judgments we ever make on the principle in question, and accordingly all the highly probable alternatives are those not realized: we might still insist that our probable judgments are right relative to our knowledge at the time. However, a principle of induction which might always lead to disappointment does not seem to be what is wanted. And yet it is difficult to see how the almost wholly mathematical proof of the principle could exclude *a priori* such possibility.

To put the matter in another way: for our knowledge, between what is observed and what is unobserved, there is all the difference in the world. It is literally true, "The experienced species is peculiar in being experienced, but every species is peculiar in some respect" (*ibid.*, p. 176). But this does not imply that they are equally peculiar for our knowledge; for our knowledge, being experienced is a very peculiar peculiarity. God might neglect the human distinction between the past and the future, the known and the unknown; but we can not afford to do so. No *a priori* principle of indifference could assure us that it is equally prob-

able whether what is experienced should be experienced in the order it is actually experienced or in any one of the permutations of it,—unless we either beg the question by tacitly assuming something to the effect that the future resembles the past or give up the claim that the more probable alternative is on the whole and in the long run more often realized.

The previous proportional syllogism may be evaluated in one way or another according as we accept one interpretation or another of the notion of probability. On the frequency interpretation, the conclusion does not follow from the premises; while on any non-frequency interpretation, the conclusions reached in such fashion need not guarantee success, on the whole and in the long run, of our actions guided by them as predictions. In granting that we know *a priori* that a large sample very probably has nearly the same composition as the whole population, we must not forget that here what are known to be more probable need not be those which are on the whole and in the long run more often realized. Indeed, if we find consolation in the assurance of such *a priori* high probabilities, Professor Williams's justification seems to be of the kind which can justify almost everything we may desire to justify.

A more modest answer to the problem of induction is Professor Reichenbach's widely known solution.² He maintains that to obtain such a solution we need only prove two things: (i) the aim of induction is possible in the sense of not being proved to be impossible; (ii) induction is the best means we have for attaining the aim. Foreseeing the future as aim of induction is determined by him as "to find series of events whose frequency of occurrence converges toward a limit" (p. 350). Then (i) is obviously true. Moreover, his theory, he tells us, provides a logical demonstration of (ii). Hence the solution is complete.

Let h_s be the frequency-ratio of events of the type A among a series of s events A and non- A . Professor Reichenbach formulates (on p. 340) the principle of induction by the following statement (1): For every $s (s > n)$, we assume that $|h_n - h_s| \leq \epsilon$, where ϵ is a small number. Then he points out that this formulation is a necessary condition for the existence of a limit of the frequency near h_n (p. 341). But the following does not appear very clear: What kind of number is n ? how small is ϵ ? A necessary condition of the existence of a limit of the frequency which specifies ϵ and does not depend on any particular n seems to be the

² His theory was put forward in *Wahrscheinlichkeitslehre* and Ch. V of *Experience and Prediction*. References of page numbers will be made to the second work.

following statement (2): For every n , there is an ϵ_n such that for any s ($s > n$), $|h_s - h_n| \leq \epsilon_n$, and ϵ_n approaches 0 as n increases indefinitely. This is an analytic consequence of the assumption that the h -series of frequency-ratios does have a limit at all.

But if we adopt statement (2) as our principle of induction, something which happens may look paradoxical. On the one hand, for any fixed k , however large it may be, the first k terms of the ϵ -series of the ϵ_i 's may be arbitrarily determined without affecting the mathematical truth of our principle. On the other hand, empirically we are always concerned with those ϵ_i 's and h_i 's for which some finite upper bound k can be found; what we are concerned with in practice is how the first k terms of the ϵ -series are to be determined. In other words, this principle as it stands seems to guarantee no practical success whatsoever in our life; because, however our empirical findings at a stage may be, mathematically our principle is always compatible with the possibility that the actual limit differs from the frequency-ratio found at the stage by some quantity no less than $\frac{1}{10}$ (say) or even $\frac{1}{2}$.

Professor Reichenbach does not deny that "a series actually observable is always finite, of even a rather restricted length, determined by the short duration of human lives." He introduced "the term *practical limit* for a series showing a sufficient convergence within a domain accessible to human observations," and tells us that his theory may be said to be concerned with a practical limit instead of a mathematical limit (pp. 360-362).

Let us take an h -series of frequency-ratios with finitely many terms h_1, \dots, h_k . The statement (3) "For every j ($j \leq k$), there is an ϵ_j such that $|h_k - h_j| \leq \epsilon_j$, where for every small δ (> 0), there is an l ($l \leq k$) such that $\epsilon_l < \delta$ " is then necessarily true, seeing that we may choose to give ϵ_k the value 0. If we take statement (3) as a sufficient condition for the existence of a practical limit, it is an analytic truth that every h -series with finitely many terms has a practical limit. Such a notion of practical limit would be of little interest for us, because certainly from a principle of induction we want something more than the assurance of existence of such limits.

We may require that only those h -series with accompanying ϵ -series of a specific kind are to be said to possess a practical limit. For example we may require that for every i ($i \leq k$), $\epsilon_i = 0$; or we may require that for every i ($i \leq k$), $\epsilon_i \leq \frac{1}{2}$; or we may require that for every i ($i \leq k$), $\epsilon_i \leq 1/i$; and so on. Corresponding to every specification of the requisite ϵ -series there is then a notion of practical limit. And if following Professor Reichenbach we introduce the term "predictable" "for a world which is suffi-

ciently ordered to enable us to construct series with a limit" (pp. 350-351), then corresponding to every notion of a (practical) limit there will be a principle of induction which is expressed by statement (3) plus the corresponding condition on the admissible ϵ -series. The applicability (at least to some h -series) of each such principle will be necessarily ensured by the assumption of predictability (in the corresponding sense) of the world.

In each case, it will be tautologous to say that, if the world is predictable, then the principle of induction has application. The problem of formulating the principle of induction becomes mainly a matter of choosing suitable definition of practical limit, which in turn is a matter of choosing a suitable condition for the admissible ϵ -series. Probably past experience may help us in specifying the condition for the existence of a practical limit and determining thereby the notion of predictability as well as the principle of induction. Each principle of induction becomes then something like a scientific hypothesis about our future experience. When "the short duration of human lives" comes to an end, some higher spirit may observe that the human belief in the predictability of the world turns out to be true (or false).

Professor Reichenbach persistently repeats that his principle of induction is the best means we have for attaining the aim of induction. In what sense is it the best? It is analytically true that, if there exists a limit of the h -series, we may reach an h_n arbitrarily near the limit by choosing a sufficiently large n ; though for a given small ϵ , assuming the existence of a limit of the h -series, we are yet unable to fix the value of n . If we consider an h -series of finite (yet undetermined for us) number of terms, probably we may call that principle of induction the best which uses the narrowest notion of (practical) limit (i.e., the one for which the condition on the admissible ϵ -series is the strongest) and yet turns out to be confirmed at the end of "the short duration of human lives." But, if so, we certainly do not know which is the best; because we do not know which specific principles of induction turn out to be confirmed in the end.

The justification of induction given by Professor Lewis in his new book⁴ seems to be along a different line. He appeals to our

⁴ *An Analysis of Knowledge and Valuation*. Professor Lewis's justification is given principally in Chapter XI of the book. Note, however, the discussion of probability in Chapter X has led him to conclude that the (rational) "credibility of a statement 'P' coincides with the intent of 'It is probable that P,' in a sense of 'probable' which is commonly current and represents the only basic meaning of 'probable' which it is necessary to consider" (p. 316). Hence in Chapter XI he uses "probable" and "credible" almost as synonyms.

everyday experience and common sense instead of mathematics. In what follows I will attempt a summary of Professor Lewis's theory. Since, however, I am not sure I understand him at all, my attempt will probably fall beside the mark.

We have no logical guarantee that the alternative judged by us to be more probable is on the whole and in the long run the one which is more often realized. It is logically possible that this is not the case. It is logically possible that the majority of our present predictions in science about future experience will turn out to be discredited. We can not even adequately explain why natural laws have led to so much success so far, especially in view of the often very insufficient evidence on which the generalizations were based. If we think about it, this may appear to be the most incomprehensible thing about the world. In fact, it makes one feel better, one may resort to a hidden harmony inherent in nature for explanation. But so far as our empirical knowledge goes, it is certainly possible that the sun will not rise tomorrow. More than that, for example, I may judge that, because a certain visual doorknob-appearance *S* is presently and indubitably given, therefore if I initiate the proper groping motion *A*, the doorknob-contacting sensation *E* will follow; and yet possibly *E* will not follow *A*. It is logically possible that most of such highly probable everyday predictions of the form "If *A*, then *E*" will be falsified.

The epistemological problem of induction, however, is not and can not be to give a logical demonstration that such suppositions can not turn out to be true, that such logical possibilities are logically impossible. We must not expect to get a guarantee of general success for our empirical predictions by resorting to formal logic or mathematics. More fundamental but perhaps less often observed than these particular predictions is our sense of fact, our sense of empirical reality. Any item of our sense of past fact is *prima facie* credible and probable; otherwise to say that one alternative is more or less probable than another would be meaningless for us, because we would then have no criterion of the empirically real, no means of understanding what is meant by calling one alternative more probable. That empirical reality can be known is an analytic statement which can only be repudiated on premises which already imply it. The possibility of knowledge of empirical reality is a prerequisite for the notion of probability to have any meaning at all.

Any prediction "If *A*, then (probably) *E*" must inevitably be relative to what we know at present; while the knowing process must take place in the *epistemological present*,—a present in which

what is sensuously given is surrounded by or embedded in a mass of epistemically pertinent surrogates of past experience, in the form of memories or of the sense of past experience as having been so and so. Such mnemonic preservation of past experience, its present-as-pastness, is constitutive of the world we live in.

It is indeed logically conceivable we might be subject to persistent delusions, and what is remembered at every epistemological present might always be newly created in our mind at the moment by God. But the assertion of such possibility is at best a metaphysical thesis in the sense that it is in principle incapable of being either empirically verified or falsified. We have no rational alternative but to presume that anything sensed as past is more probable than that which is incompatible with what is remembered and that with respect to which memory is blank.

Once initial *prima facie* credibility is granted, the remembered merely because remembered, it becomes comparatively easier to see this: When the whole range of empirical beliefs is taken into account, all of them more or less dependent upon memorial knowledge, we find that those which are most credible can be assured by their mutual support, or, to use Professor Lewis's special terminology, by their *congruence*. An examination of concrete examples reveals the fact that a body of empirical beliefs, each of which is less than certain and no one of which can be substantiated on empirically certain ground, may nevertheless be established as credible by their relation to one another; the conjoint truth of some—and perhaps a relatively few—in a congruent set of statements may be sufficient to establish a high probability of some other, or perhaps all of the others, even though no single one of the items thus conjoined would be particularly good evidence of anything in question. If several relatively unreliable witnesses independently tell the same circumstantial story, then the congruence of the reports establishes a high probability of what they agree upon; for on any other hypothesis than that of truth telling, this agreement is highly unlikely. Such considerations account for the usually very high credibility of our everyday beliefs.

Hao Wang

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WE CALL IT MIND

AMID the massive doings of the dinosaurs, the monstrous acts of the behemoth mastodons, and the never-ceasing animal struggle to survive, it was a happy hit of evolution's endless variations that emancipated man. Tooth and claw and fang ruled the long

ages of brute force. Only an accident, an incident, turned a sharp corner in evolution. A white-flag tail, an attitude, a gesture, the song of a bird, an insufflation of satisfaction, an animal grunt, simian chatter, turned the bloody struggle into a playful coöperative technique of living.

An insignificant five-fingered quadruped, haunched on his hind feet, held the nut in his fingers, and cracked it with his teeth: the first diagonal step from the horizontal quadrupedal to the vertical bipedal human stature. Swinging through the trees, clasping, grasping, rasping one thing against another, developed the opposable thumb. Running, leaping, defending a pou sto, developed the plantigrade foot. An erect stature released the arms and hands. Freed arms and hands released the muzzle from the necessity of tearing the enemy to pieces with his teeth. A released snout and mouth freed the larynx from the mere grunt and snarl to become a manipulator of vowel-sounds. The human biped finally found a vocal symbol for himself and for the other fellow.

When *homo alalus* began to turn his simian chatter into consonantal modifications of the vowel-sounds, resulting in articulate vocal signs and signals, then a new world began to emerge, for now the groping creature began to live in terms of the past, in terms of absent objects and distant events, and a future was born of an idealized present and past. He began to live in terms of conditions and consequences. Everything, as Vaihinger said, became *as if*. A phantasy world was born as those activating hormones, those catalyzing vitamins, those zipping enzymes, those assimilating amino-acids, swept the association-areas of the cortex with an enriched blood-stream and evoked images, pictures, symbols, surrogates, in place of the uneventful reflexes of an instinctive life. Consciousness and attention flashed forth in every critical situation, not as an immaterial entity, but as the tensional coöperative together-knowing of creatures living in a pack, a herd, the family, the group. These derivative secondary attitudes and acts of the minor muscles of gesture and speech, now directing and controlling the primary fundamental behavior of the gross and major muscles, became of supreme importance in the life of the individual and the social whole. The indicative gestures, tones, signals, signs, symbols, guided the conduct of both the individual and the group. Vocalization, now articulate, informative, and communicative, became an important factor in social organization. A coöperative symbiotic intercurrent selfhood took the place of the competitive struggle for existence. Sensorimotor strains of adjustment and adaptation culminated in habits of attention. Gross sensual thalamic floods of feeling became canalized by the envisioned images

of conditions and results. Emotions became harnessed in the service of hallucinated episodes. The animal became human. He lived, not merely on the knife-edge of the present, but in a burgeoning past and an alluring future.

Half made of earth, unearthlike in desires,
 An uncouth struggling shape aspires;
 Beats down the brutish prison bars,
 And reaches out in mute entreaty to the stars.

It is difficult to give a behaviorist account of the origin of our secondary behavior, once called mental, without invoking many of the implications of a mentalistic metaphysics. But the fact is we are rapidly outliving our language in respect to much of the matter-mind controversy, since the dualistic and parallelistic dichotomy of our existence is no longer relevant. Everything is born and develops within the one actuality we know: a dynamic cosmic universe of energies, omnipotent, omnipresent, and, in the course of time, through science and coöperative endeavor, perhaps omniscient and omnibenevolent. Just as we have outlived the indivisible atom, so we are outliving that traditional enigma:

What is matter? Never mind.
 What is mind? No matter.

"Mind what you are doing" means focus your minor muscles on what your major muscles are doing. "Mind"ing what you are doing means convergence of the eye-muscles, focusing the lenses, frowning perhaps, compressing the lips, momentarily suspending the breath, invoking all those repressed speech-reactions we call thinking by recalling words, gestures, situations, conditions, consequences, for determining the precise circumstances for the present impending deed. In other words, do with that deliberative minor technique we call thinking before you do with those major overt acts we call the deed itself. Be human before you perform any animal act. Look before you jump. Analyze before you categorize. Deliberate before you execute. Think before you do. That is, do tentatively with the minor muscles before you do overtly and finally with the major ones. Study the calendar, the telephone book, the encyclopedia, and, if necessary, the dictionary, before you commit yourself. That is what is meant by the mental or secondary behavior. The human rehearses what he does before the curtain goes up. Of course, our primary behavior is not confined to the major muscles. We can scream, cry, yell with our minor muscles; we can even think wildly, befuddling our fellow humans; but, this is animal, not human behavior. On the other hand, we can not do much technical thinking with our major muscles, only

that practical primitive so-called thinking the animals do, more accurately called the conditioned reflex.

Also, as an illustration, consider what is called "Love in Absentia:"

There you are; there, not here. If only you were here! But you are there, and I am there too (mentally, we call it). No animal can do it as man can, with his minor muscles. When you are absent, distant, remote, there not here, my vocal cords vibrate, my diaphragm supports a column of air; my lips, tongue, teeth, shape the vowel-sounds into consonantal signs and signals we call words. These articulate symbols are saturated with you. Reminiscent of past hours together, anticipative of future episodes, my minor muscles of speaking and writing, and that sub-vocal pattern of inhibited acts called attitudes (feeling and thinking) keep you constantly present in your absence, here with me while you are there. We are together vicariously in terms of all the attitudes, the suppressed urgencies and desires, the longings, the lingering images, phantasies, and idealizations of each other. We triumph over time and space. We call it mental, psychical, spiritual. But it is just the secondary behavior of our minor muscles controlling and guiding the primary behavior of our major ones. It is but our indwelling organic reverberations of the past and symbolizations of the future which bring us together. Every past act and every future episode, involving the rhythmic whole of our conduct, is here represented by these minor muscles, by these harmonic harmonies, these glandular stirrings, these tentative deeds, these attenuated desires and drives, by this present intensive symbolic self which envisions you here with me. It is just enjoying you in your absence as if you were present. It is accumulating all the words and images which symbolize you in this phantasy world of mine. All the major acts of living can be reëndeted in this miniature theatre of the minor muscles. I am related to you with all my primary and secondary behavior; with my major and my minor muscles; with my glands, my breathing, my bloodstream; my nerve-paths, my autonomic ganglia; my cervical, cardiac, solar, lumbar, pelvic plexuses; with my sensory and motor centers in the cortex; with my association-areas, and all the synapses. I am related to you with the old and the new brain: with every movement I make, every gesture, every word I utter, every sub-vocal thought I think, every urgency, appetite, desire, and drive. Science is just our minor muscular activities controlling our major ones; we call it method, technology.

Most of the so-called psychoses and mental deviations are due merely to defects and failures in the coördination of our secon-

dary behavior: our speaking, writing, reading, listening, seeing, and, especially, in that sub-verbal speaking we call thinking. Our frustrations and quandaries are chiefly in that sphere, largely because our technique in this field is amateurish and inadequate. When you view the imperfect character of our elementary and secondary education, it is no wonder that so many suffer from so-called mental diseases. Our politics, our ethics, our economics, our religion, all of which instead of fighting it out have been built up in terms of our secondary behavior, are still in a state of confusion. The relation of our secondary behavior in relation to agriculture, when we read technical works on the subject, listen to agricultural experts, have the soil tested, and employ the results of the most recent experiments in the field of hybrid plant types,—when we proceed in this way, there is no frustration and no real failure, whatever the financial status of the enterprise. But in the fields of politics, ethics, economics, and religion, we do not dig down to the facts, to experimental tests, and technological procedures. Instead, we flounder about among the traditional "isms" and "ologies" and carry on our discussions in terms of ambiguous categories and recriminating smear-words. Our confusion is due to the fact that we have not employed our secondary behavior technologies in dealing with these problems, as we do in the fields of theoretical and applied science. Our democracy is not based on a technical analysis of the social situation. It is a melange of slogans, loyalties, and patriotisms. Voting formally and celebrating the Fourth of July is a mere glamor-reaction to the facts. Our so-called democracy has only begun to deal with its problems in terms of that technique of the minor muscles which we call scientific thinking.

Nature hit upon happiness to perpetuate the race and upon the significant symbol to transform the instinctive animal into the intelligent human. In the historical dualism that has so influenced our thinking, matter was assigned to science. But science, with her experimental tests, has outlived matter and materialism. Science deals, not with an abstraction called matter, but with the concrete actuality of existence which, during the past half-century, has been shown to be not an ontological entity, known as the indivisible atom, but a system of cosmic energies, potent and indefinitely variable in its progressive evolution.

With our minor musculatures of speaking and that sub-vocal speaking we call thinking, we have mastered the technique of controlling the major overt acts we call the conduct of life. By thoughtful observation and experiment we have come to live in a super-environment of our own fabrication: a phantasy world, a

world of values grounded in a world of facts, a world of conscious coöperative endeavor which we call method, a world of instrumental technologies to perfect our idealized ideologies. Man no longer worships a legendary deity; his ethics is based in his social technics; his logic is a multiordinal hierarchy of abstractions; his philosophy is based in science—an empirical naturalism; his art is the culmination of his competitive struggle for the best. We are learning to idealize the actual and to actualize the ideal. It is one world. Its dualities, its trinities, its infinities, are methodological, not ontological. By a chain-reaction, some day, we may control evolution itself, do away with death, guide the star-suns through the Milky Way, and travel with the speed of light from one island-universe to another. It is an electronic and radionic age. Political controversies will seem like the snarling of dogs, the howling of hyenas. We will be living in a world of technological knowledge, coöperatively administered, and esthetically appreciated by all.

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BOOK REVIEW

A Kierkegaard Anthology. Edited by ROBERT BRETALL. Princeton: Princeton University Press. 1946. xxviii + 487 pp. \$5.00.

Existentialism. JEAN-PAUL SARTRE. Translated from the French by Bernard Frechtman. New York: Philosophical Library. 1947. 92 pp. \$2.75.

What Is Existentialism? WILLIAM BARRETT. (P.R. Series No. 2.) New York: Partisan Review. 1947. 64 pp. \$.50.

The discovery of the works of Kierkegaard in the twentieth century is the tap-root of two divergent schools of contemporary existentialism. With the first of these, the so-called neo-orthodox movement in Christian theology, we are not here primarily concerned. The other, the current secular existentialist movement, has served to make Kierkegaard's name familiar, ironically enough, in popular picture magazines, in cocktail lounges, in avant-garde literary reviews, as well as in academic lecture halls. When existentialism first became news, chiefly through the agency of M. Sartre and his French colleagues, it was a common observation of professional philosophers that here was a typical post-war phenomenon, a literary cult, a fad, which would sputter out as ignominiously as its rise had been spectacular. It is too early as yet

confidently to assess the significance of existentialism in its newest dress. There is still too much effervescence to discern its essence. But this much we know. It has heavy roots in nineteenth-century thought, it is fumbling for a new interpretation of man amidst the convulsive disturbances of modern times, and it is the only credo which has thus far inspired a literary renewal in the shattered countries of Europe. In view of these facts it can not be ignored, simply.

In the light of these circumstances one is disposed to welcome the appearance of an anthology of Kierkegaard's works and two slender books about existentialism. The sharpest contour arising from the juxtaposition of these books is existentialism's radical search for human freedom. This is its deepest motive, deeper than the subjectivism and irrationalism by which it is more often characterized. The existentialists ignore the traditional arguments for the freedom of the will and begin anew by *positing* the concrete freedom of the individual as a new and radical first principle of philosophy. We *are* freedom, for better or for worse. More often, it seems, for the worse. The existentialists do not glory in the possession of freedom. They see it as a problem—the life-problem, in fact. This is the basis of that curious linkage of freedom with the tragic sense of life that is so characteristic of existentialism.

A *Kierkegaard Anthology*, skillfully edited by Robert Bretall, will be welcomed by those who desire an acquaintance with the full range of Kierkegaard's works. The Kierkegaard student may also enjoy in it the experience of consorting once again with favorite passages. The selections provide a good sample of his trenchant insights into the demonic and spiritual deeps of the human soul, and enough variety to impress the reader with his extraordinary virtuosity and versatility. Because the enjoyment of Kierkegaard is a peculiarly subjective matter, every reader will doubtless miss this or that favorite passage. But since Kierkegaard is always concerned with one and the same problem, the choice of selections is largely a matter of taste. The editor wisely decided to present the selections in the chronological order of publication instead of trying to force this ubiquitous material into an alien, systematic mold. The helpful introductions accompanying the selections are unincumbered by that yeasty enthusiasm that characterizes some of the writing about Kierkegaard.

The *Anthology* embraces selections from all of Kierkegaard's chief works including the *Journals*. Among them are three passages of special interest now in connection with the controversy over existentialism. The first of these is the group from *Either/Or*,

Kierkegaard's answer to Hegel's endless dialectic, which bespeaks the modernism of Kierkegaard's analysis. Passages descriptive of types of esthetic existence are followed by some pages from "Equilibrium," depicting the individual as he confronts his fateful, personal either/or. The free man, torn between ethical and esthetic alternatives, must choose what sort of being he will be. Like James's "will to believe," Kierkegaard's "choice of oneself" is a decision that is decisive for the content and power of the choosing personality. "In making a choice it is not so much a question of choosing the right as of the energy, the earnestness, the pathos with which one chooses" (p. 106). Thereby the personality is "consolidated" and consecrated; and if a man has chosen the wrong he will discover this by reason of the energy with which he chose. There is no escape. Not to choose is still a choice. It must be done "in passion" if it is to be decisive. This point is the fulcrum for contemporary existentialism.

Two other passages that may be singled out concern one of the unresolved tensions of Kierkegaard's thought. In the passage from *The Present Age* he vents his spleen on the common man ("the cipher in the crowd"), on bourgeois happiness, on collective welfare, progress, and democracy. These strictures stamp him as an arch-conservative and, one is tempted to say, a misanthrope. Despite his own preoccupation with romantic love, there is something peculiarly loveless and morbid about his conception of the ordinary, banal man whom he loathed. However, implications of quite another sort flow from the selections drawn from *The Works of Love*, which opens the door to a humane, Christian ethic of charity, neighborliness, and forgiveness. This aspect of Kierkegaard's thought rests on his theology and is less spectacular and less well known than his denunciatory moods.

Contemporary secular ("atheistic," in Sartre's designation) existentialism has appropriated Kierkegaard's dubious appraisal of man, but rejects his conception of the saving leap into the Infinite and with it the doctrine of healing love. The result is a truncated, negative mode of thought that embodies all the morbidity, arbitrariness, subjectivity, and radical anti-rationalism of Kierkegaard, without defining any point of reference outside of the individual. And in this radical "humanism" the introspective analysis of the melancholy passions masquerades as a new ethics.

It is against criticisms such as these that the high-priest of current French existentialism sets out to defend his system in the brief polemical essay which his American publishers have pretentiously entitled *Existentialism*. It is a translation of a popular

lecture given by M. Sartre in 1945 in Paris, padded out with the transcript of an ensuing discussion chiefly between M. Sartre and M. Naville, a Marxist. Although the essay is untechnical, it is not very illuminating to the uninitiated, since it subordinates exposition to defense. But for those who have a smattering of existentialism it offers some interesting fare, even though it does not deepen the connotation of existentialism.

The author professes to be disturbed over the misconceptions of the new movement in Marxist, Catholic, Protestant, and popular circles, and proposes to set them straight. He explains that all forms of existentialism, Christian as well as atheistic, begin in subjectivity, that is, in the premise that in man being precedes essence. Unlike mere things, man is what he makes of himself. This entails the rejection of every fixed conception of human nature, of determinism, and of an all-disposing God. "If God did exist, that would change nothing" (p. 61). In M. Sartre's view, the ultimate form of existentialism is atheistic.

The author propounds replies to those of his critics who have charged his school with being morbid, quietistic, arbitrary, and ego-centric. When the existentialist says that man is responsible for himself, he means that he is responsible for all men. The recognition of this enormous responsibility is the source of the anguish, forlornness, and despair suffered by the sensitive individual. It is the anguish of the man of action desperately aware that he must choose and act, alone and without God's help. "Man is condemned to be free" (p. 27). No one can tell the individual what he must do or what he must be. And since moral values are general and vague, "the only thing left to us is to trust our instincts" (p. 31) and choose and act, since a person must first involve himself before he can confirm or define any value. "There is no reality except in action" (p. 37); "a man is nothing else than a series of undertakings" (p. 39). To speak of a person being potentially this or that is nonsense; it is to mistake an abstract possibility for a concrete actuality.

Thus M. Sartre attempts to side-step all the morally anarchical implications commonly attributed to subjectivism. While he denies the existence of a concrete universal ethic, there is, he admits, a universal human condition which each unique individual must take into account. I build the universal in choosing myself. Consequently, the individual configuration is of universal value. Moral choice is analogous to a work of art. No one can tell the artist what he ought to paint; and, just so, we can not decide *a priori* what ought to be done or what sort of persons we should be. Nevertheless, we can pass judgment on acts. We can judge

whether a choice of involvement rests on error—that is, a failure to see things as they are—or on truth. Beyond that, moreover, the existentialist may condemn dishonest choice because it belies “the complete freedom of involvement.” The author assails the “dishonesty” of those who take refuge in principles, determinism, the power of their passions, circumstances, etc. Sincere involvement and fearless honesty are the basic virtues. Thus emerges “a universal form of ethics,” although the content is variable. This is M. Sartre’s “existentialist humanism.”

In the concluding discussion a Marxist denounces Sartre’s system as a desperate attempt to resurrect moribund liberalism by substituting a miserable “human condition” for a scientific account of human nature coupled with an objective program of social action. In reply Sartre does little more than reiterate his previous defense, and the argument ends weakly in a stalemate of irreconcilable first principles.

It would be palpably unfair to compare M. Sartre’s popular lecture (we do not as yet have a translation of his definitive treatise, *L’Être et le Néant*) with Kierkegaard’s dense, thick-running books. But the evidence at hand permits of no other conclusion than that French existentialism is mainly a literary curiosity, a mood and a pose, rather than a full-fledged philosophy. But it is a symptom of the seismic upheavals in the modern soul.

Mr. Barrett’s book, *What is Existentialism?*, traces certain developments in the recent history of ideas in a mood of dramatic foreboding. It is essentially a bundle of notes, an outline sketch of a thesis deserving of a life-time of study and thought. This is not to condemn the book. Mr. Barrett, an associate editor of the *Partisan Review*, thinks in print about a big theme in a rambling sort of way; but his thoughts are of a sort that are bound to set the reader thinking too. And what better purpose can a book serve!

His thesis is that Dostoevsky’s “Underground Man”—the bad breath behind the forced smile and clear, even teeth of twentieth-century man—has found his philosophic voice in existentialism. Since the Underground Man “carries the explosive charge of his freedom” (p. 62), the problem is to find for him “the least destructive and most valuable levels at which to release his aggressions” (p. 63). The author proposes no program, but is content to look into historical origins and scout the human situation today.

In the opening chapter he proclaims that existentialism is no longer an affair of isolated schools or figures but involves nothing less than “the whole Western mind—Europe and America—bending before a new climate of opinion” (p. 9). It marks the death

and burial of Descartes with his intellectualism, dualism, and misplaced concreteness. The new orientation rests on "the search for the concrete," which has given rise to "a vast extension of concrete data." Among the grave-diggers of Descartes Mr. Barrett identifies Pascal, Hegel (in his phenomenological moments), Kierkegaard, Nietzsche, Heidegger, Jaspers, Dilthey, Bergson, James, and Dewey (in his stress on the existential context). An "Imaginary Conversation" between Whitehead and Heidegger reveals both searching for concreteness and adequacy, but disagreeing as to where these are located; the former looks to immediate feeling, while the latter, seeing the given always turning again into the abstract, concludes that human existence alone is *pour soi*.

After these breath-taking generalizations, Mr. Barrett examines existentialism's struggle to become a system, choosing Heidegger's *Being and Time* as the high-water mark of this development. But he takes Heidegger to task for investing his description of "authentic existence" with a number of unresolved tensions, the consequence of an attempt to incorporate incompatible strands of thought, Greek and modern. The net effect is that the existing individual slips away again through the meshes of an eclectic ontology. Pascal and Kierkegaard, the author concludes, were better existentialists than Heidegger, who, in his final reversion to pre-Socratic thought, signalized the overripeness, the second childhood as it were, of Western culture.

On this slender thread of construction the author appends, in the last chapter, some remarks on the state of the arts and human institutions. Morbidity, anxiety, discord, the naked ego—these are the subjects of modern art. Society is witnessing the rapid collapse of bourgeois institutions accompanied by the growth of nihilism, the convulsive effects of uncontrolled technology, the decay of religion, romantic revolt, and escapism.

And what of the future? "Now a new step is being taken: it is proposed to place this creature [Underground Man] with all his explosive liberty at the very center of philosophy itself. It will be interesting to see what comes of this" (p. 63). Interesting, one suspects, as a machine-gun in the hands of a baboon is interesting! The essay ends on this mixed note of hope and apprehension.

The inability of existentialism to stand as a modern philosophy is evident from these books. It is without a philosophy of nature and it permanently "brackets" every form of causality, natural and historical. Kierkegaard understood that existentialism can never be a system, modern efforts to the contrary notwithstanding. It denies the transpersonal validity of constructive principles and objective values. It is essentially a protest, a declaration of inde-

pendence from the bondage of life to machines, traditions, ideologies, abstractions, the fatalism of history. But a declaration of independence must, in the course of time, be followed by a constitution, if freedom is not to vanish in anarchy or succumb impotently to fanaticism. But such a constitution the existentialists are not in a position to supply. To be sure, no philosophy of the future can afford to ignore the data dredged up by the existentialists. And it will be no mean accomplishment if existentialism helps agonized modern man to see that he is free in this world of his own making, and what that freedom entails. But unless that sense of freedom is accompanied by the less spectacular labor of defining the concrete sharable objectives of free men, it will only be a leap from the frying pan into the fire.

In the absence of any interpersonal scheme of values the last court of appeal of the existentialist is "instincts" and irrational will. But is the way of reason so thoroughly discredited that we have no option but to surrender life to instinct? Under the stress of tragic events we have become conscious of the fact that the veneer of reason and civilization is still very brittle and thin. And so despair has once again become fashionable. In a curiously inverted way the existentialists are abandoning themselves, despite their "principles," to the rhythm of historical forces, as they conceive these. Even the existentialists can not escape history.

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BOOK NOTE

The Censoring of Diderot's Encyclopédie and the Re-established Text. DOUGLAS H. GORDON and NORMAN L. TORREY. New York: Columbia University Press. 1947. xii + 124 pp. \$3.00.

The *Encyclopédie* was the first great encyclopedia, but it was unlike its successors. Its editor was convinced that it must have a point of view, and consistently express "l'esprit philosophique," that spirit of critical, naturalistic inquiry which, the *Encyclopédie* predicted, would change the culture of Europe. Diderot's editing was a tireless effort to lift the articles in the *Encyclopédie* above the level of innocuous summaries of information, and to convert them into instruments for exposing intellectual fraud and exhibiting the inherent virtue of free inquiry.

This excellent monograph tells the story of an attempt to censor the *Encyclopédie*. It has long been known that Diderot was not only bedeviled by the official censorship of the Old Regime, but

had to put up with the unofficial and surreptitious censorship of his publisher, Le Breton. After discovering what Le Breton had been doing, Diderot wrote him a furious letter. He accused Le Breton of having "massacred" the work, or having had "a brute beast massacre" it, and he despairingly declared that the *Encyclopédie* had been reduced to a "hodge-podge of insipid clippings."

The exact nature and extent of Le Breton's depredations, however, has not been known. In this study Messrs. Gordon and Torrey announce their discovery—Le Breton's own file of corrected page proofs, bearing Diderot's final instructions and barbed warnings to the printer not to tamper with his text, and Le Breton's subsequent deletions and modifications. Messrs. Gordon and Torrey have reprinted the original texts of the affected passages, together with the censor's changes, and have provided an historical account and textual analysis to show the significance of their discovery.

Diderot's marginal notes on the page proofs tell a story in themselves. In his article "Menace," for example, under cover of giving an illustration for his definition of the term, Diderot indirectly but plainly attacked Joly de Fleury, commissioner of police. In the margin Diderot wrote: "Je prie tres instamme[nt] qu'on ne s'avise pas de toucher à cette article . . . je suis bien à plaind[re] s'il ne m'est pas perm[is] de me venger d'un faquin lorsque l'occasion s'en present[e]. Je ne veux pas ici de correcteur, et je n'en ai . . . que faire souffrir. Je ne suis pas en etat de mener ma besogne. [Il] faut que je la laisse." Next to his article "Socrate," Diderot wrote: "J'ai revu quand la serpe Ostrogothe eut massacré les articles. Vous tirerez et foutrez par la fenêtr[e], si vous faites bien."

The restored passages contain much that is of literary and philosophic value, including an especially spirited and perceptive appreciation of Pierre Bayle by Diderot. They also show that Diderot, understandably enough, overestimated the extent of Le Breton's changes. In general, the documents highlight once more Diderot's intention to make the *Encyclopédie* a philosophic dictionary, a way of throwing light into the dark corners of Church and State. And they reveal that a censorship that confined itself to toning down, or eliminating, "objectionable" passages could not succeed in suppressing what was most subversive about the *Encyclopédie*—the "philosophic spirit" that animated it throughout.

This study will be stimulating not only to eighteenth-century scholars, but to others who are interested in the history and drama of freedom of thought. Professor Torrey, who, according to his co-author, has "contributed virtually its entire historic and criti-

cal substance," has employed both his impressive erudition and his critical insights to fill out and illuminate the story. The result is a scholarly study in the spirit of its subject, a reflective consideration of the practical problems of "the philosophic spirit" which deepens our understanding of the intellectual revolution represented and fostered by the *Encyclopédie*.

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NOTES AND NEWS

The Twenty-first Annual Meeting of the Pacific Division of the American Philosophical Association will be held at the University of California at Los Angeles, December 29, 30, and 31, 1947. The program is as follows:

MONDAY, DECEMBER 29

9:30 A.M. Annual Meeting of the Pacific Coast Conference on the Teaching of Philosophy.

Panel Discussion: The Teaching of Logic. Speakers: Orvil Myers, Abraham Kaplan, Alburey Castell.

2:00 P.M. Meeting of the Pacific Division.

Dualistic Traditions in American Economy *E. E. Ericksen*

Toward a Collective Method *Waldemer P. Read*

Philosophy and God *E. O. Sisson*

7:30 P.M.

On Regarding the Philosophers: Kant's Protestant Reformation.
Wilbur Long

The Problem of Pluralism in Contemporary Naturalism.

Harry Raja and Monroe E. Shapiro

On Supposing and Presupposing *Donald S. Mackay*

TUESDAY, DECEMBER 30

9:00 A.M.

Poetry, Cognition, and Verification *James L. Jarrett*

Why Be Moral? *A. I. Melden*

Definitions of "Value" and the Logic of Value Judgments.
David Rynin

1:30 P.M.

Import and Intent *J. W. Robson*

Donald Williams' "Ground of Induction" *V. F. Lenzen*

7:00 P.M. Annual Banquet. The Presidential address "Rationalism and Empiricism, an Inquiry into the Roots of Philosophical Error," by *Hans Reichenbach*.

WEDNESDAY, DECEMBER 31

10:00 A.M.

From Hume to Hamann*Philip Merlan*
Is Hume's Philosophy "Normative"?*A. B. Glathe*

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